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PERFORMANCE EVALUATION IN THE NATIONAL HEALTH SERVICE - A SYSTEMS APPROACH

THESIS OFFERED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN SYSTEMS BY

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ABSTRACT

This research explores the contribution which systems theories, methodologies and models can make in the design and application of effective performance-evaluation processes. Approaches to performance assessment of organisations are reviewed, and the history and structure of the NHS, its objectives, and dimensions for evaluation are described. Drawing on questionnaire and interview data from health service and civil service staff, and secondary data, current performance evaluation and planning processes in the NHS are described and some problems identified.

To test the hypothesis that attention to systemic factors could improve performance evaluation, eight topics are analysed by the application of systems methodologies or models. Four of the topic and methodology or model combinations have received detailed analysis:

1. Making and implementing strategic plans; the Open University's Hard Systems Methodology.

2. Controlling NHS performance through structure and process, e.g. the use of annual reviews, performance indicators; double-loop learning and cybernetic control model.

3. Improving the quality of NHS care; Stafford Beer's Viable System Model.

4. Assessing performance through the outcomes of care; Peter Checkland's Soft Systems Methodology.

The areas studied in less detail are:

5. Planning for uncertainty and complexity;

6. Issues related to the politics of health;

7. Reducing the length of waiting lists and times;

8. Planning for health (health promotion and the prevention of ill health).

An analytical process was devised incorporating a methodical approach to methodology choice, and verification and validity tests. This was applied to each topic/ methodology combination. Other theoretical and empirical work on organisations has been drawn on to complement systems thinking.

The thesis concludes that, with careful attention to methodology choice, systems approaches can readily be used to diagnose problematic aspects of performance evaluation processes, design changes, and explore the implementation of those changes. However, where the problem area is highly value-laden or involves conflicts related to imbalances in power, systems thinking to date appears to produce fewer insights.

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CHAPTER 1. THE 'PROBLEM' OF NATIONAL HEALTH SERVICE PERFORMANCE

1.1 WHAT SEEMS TO BE THE 'PROBLEM'?

1.1.1 Introduction

Scarcely a day passes without several reports in the mass media concerning the National Health Service (NHS). In a great many such reports the focus is explicitly on the performance of the service - problems in stretching resources, inadequacies of community care, waiting lists for treatment - rather than merely a recognition of a medical breakthrough or new adminstrative arrangements. And such newsworthiness has been virtually continuous since the mid-1970s. It is likely that health and health care will always be a popular British preoccupation whether or not the NHS has serious flaws, but throughout the period of this research public and political concerns have focussed on performance-related problems.

This thesis addresses a number of aspects of the performance of the NHS. It asks how the NHS as an organisation assesses its performance, to what ends and with what effects. It also considers the viewpoints of key stakeholders - patients, staff, policy-makers - on what 'good' performance should comprise and the objectives towards which it should be directed. The relative power of policy-makers and certain groups of staff may dominate the shaping of health service objectives, but it seems that even they can be powerless in assuring their attainment. The research brings insights from systems thinking and other theories about organisations to bear on such apparent contradictions. It uses systems methodologies to explore some significant problem-areas in performance assessment and the setting and attainment of objectives, reflecting on the appropriateness of assumptions of rationality and pluralism which permeate many systems and organisation theories. 'Performance' is treated as multi-dimensional, and questions are posed about the contributions which performance measurement processes and information systems themselves play in the assessment and improvement of actual performance. Perhaps the NHS is not doing too badly, but is not very good at 'proving' how well it is doing.

The main role of Chapter 1 is to set the context for the analysis which follows. First, the increasing prominence of performance assessment in public service organisations is discussed, Next, it explores the contribution which health services can be expected to play among the many factors affecting the health status of individuals and populations, and the wider role which the NHS plays in the economy of Britain. A brief review of the historical development of the NHS, and some key health policies, follows. A few practical

considerations for the measurement of organisational performance follow, and then in Section 1.6 and 7 the research aims and objectives, and the way in which systems approaches have been brought to bear on a selection of problematic performance-related topics, are described.

It should be noted that the focus is on the NHS in England, and while many aspects of health care in Scotland, Wales and Northern Ireland are provided in the same way as in England, there are some significant managerial and administrative differences in those provinces. Family practitioner services too have received little attention. A further boundary to the research has been the publication of the 1989 NHS White Paper, 'Working for Patients' (HMSO, 1989). While references are made to some of the changes which its implementation will bring, primary data collection ceased before its publication.

First then, we explore the changing performance assessment climate.

1.1.2 A 'wave of performance assessment' in public services?

Since 1979 every central government department has been affected by a series of performance initiatives , including Public Expenditure Survey papers on outcome measurement, the 1982 Financial Management Initiative (FMI) and related White Papers calling for quantified targets for managerial performance review. Confidential Performance Review Reports followed the Department of the Environment's Management Information System for Ministers (MINIS). Like the Rayner efficiency scrutinies of government departments (which were emulated between 1979 and 1984 in a number of NHS spending areas such as recruitment advertising), assumptions that managerial behaviour can significantly affect expenditure levels have spread far beyond Whitehall.

Audit functions and accountability machinery affecting both central government and local services, have developed considerably in recent years. Since the mid 1960s, the Parliamentary Select Committees have provided a relatively open route for MPs to question Ministers and civil servants on government policy, in a period when it is argued that the power of MPs has been reduced. Although its direct influence depends on acceptance of its recommendations by government, when the Social Services Committee turns its attention to the expenditure plans of the DHSS or undertakes an inquiry into an area of service, information becomes publicly available and light is shed on performance. This also follows from the work of the Comptroller and Auditor General and the National Audit Office (NAO) in scrutinising the accounts of government departments and many public bodies, together with widely-defined 'value for money' audits. Areas under scrutiny in the NHS in 1988 have included clinical effectiveness, the operation of monitoring arrangements for capital projects, and budgetary control procedures. The NAO reports to the senior select committee, the Public Accounts Committee (PAC), to whom the government should report on the steps taken to implement the PAC's recommendations. The concerns of the PAC

about health authority accountability were influential in the establishment of the annual review system in the early 1980s, and in 1987 the NAO and PAC took the NHS Management Board to task for slow progress on improving the internal audit function of health authorities.

As the development and use of performance indicators, annual review processes and other monitoring and assessment devices for the NHS will be considered at length in later sections and chapters, they will not be dwelt on here. Parallel developments in the oversight of local government activities have included a set of Key Indicators for social services, developed by the DHSS Social Services Inspectorate and to be published, ostensibly as a tool to help local managers. As in the NHS, professional bodies such as the National Institute for Social Work are themselves seeking ways to evaluate service provision. Elaborate sets of local indicators have been introduced by some councils, such as the London Borough of Bexley's 'Annual review of performance' (discussed in more detail by Pollitt, 1986 a), b)). The Audit Commission, with publications such as its handbook 'Improving economy, efficiency and effectiveness in local government in England and Wales' (1983) has been a driving force for similar initiatives, and has recently been given a substantial role in monitoring the performance of the NHS.

While the last Labour government was beginning to question the efficiency of public services and place constraints on health service resources, the nature and increased pace of such developments cannot be separated from the beliefs of the Conservative governments from 1979 to date, which hold that the public provision of services, whether by central or local bodies, is not necessarily to be desired. Private sector management practices and the exposure to 'market forces' should enhance the 'economical' and 'efficient' provision of public services where they persist, and help to reduce public spending. The policy to expose public services and nationalised industries to greater market competition and at the same time reduce some of their traditional bureaucratic features has taken various forms in the NHS. Competitive tendering programmes, removal of Crown immunity for health service premises from prosecution under public safety legislation, and the expectation that health authorities will engage in a range of commercial ventures under the recent 'income generation initiative' were raising market awareness in the NHS well before 'Working for Patients' introduced a competitive internal market incorporating the private medical sector. The search for private sector health care models has extended abroad, particularly to the USA, where for example the use of Diagnosis Related Groups for assessing the efficiency of medical treatments (Bardsley et al, 1987) has been incorporated in the development of management budgeting in the NHS. Rather fewer ideas from European health services, often more similar to the NHS, seem to have reached these shores.

A focus on efficiency, in terms of quantitative input and process measures, has persisted from the outset in spite of its recognised limitations as an indicator of 'good' public service. The relationship between central and local government has been undergoing considerable

change since the Conservatives came to power, which may broadly be characterised as the centre seeking to increase control over local activities and spending, and a complex mix of defensive and proactive shifts in approach to local democracy and consumer relations may be observed in a number of local councils.

School and the tertiary education sectors have not escaped the scrutiny of performance. As well as the publication of exam results and other indicators both of pupil and teacher performance, and the comparative evaluation of the ILEA's performance prior to its abolition, the scrutiny of universities and polytechnics has escalated to have a direct impact on funding. Even the police and prison services are being assessed, and found wanting; addressing the Police Foundation in 1988 the Home Secretary responded to pleas for more resources with a demand for greater efficiency.

Unsurprisingly, research into performance evaluation has become a growth industry in the 1980s - hence, in part, this thesis! Examples will be cited, which will reflect a range of roles and aims of such research. While these include some of a primarily critical nature, many examples are linked to other 1980s trends such as the changing roles of management and management of change in public services, the introduction of information technology (IT) and management information systems, and national and international economic comparisons. As well as major analytical and comparative studies (Carter et. al. 1987), a wealth of in-house and commercial/ research institute consultancy projects have focussed on the development of performance-related tools and techniques.

Ham (1985, p.28, p.128) refers to the influence that both academic and commercial policy analysts have had on government health policy. While McKinsey & Co. helped shape the new NHS planning system in 1976, bringing private sector corporate planning ideas into a Labour administration, by and large academic social policy and administration research has had more influence on Labour government and opposition. Commercial and openly Conservative policy analysts have informed the present government. Following the Griffiths report which brought general management to the NHS from Sainsbury's in 1983 (DHSS 1983) the role of top business people has been further expanded with the inclusion of four very senior commercial-sector managers on the NHS Policy Board formed in 1989. The emphasis introduced from outside has not been exclusively on efficiency, however. Sir Roy Griffiths may be credited with placing 'quality' high on the NHS performance agenda, and although Pollitt (1988), Winkler (1987) and others have questioned the significance, for patient choice and clinical standards, of much that has been introduced in the name of 'quality assurance' since 1983, in Chapter 6 in particular we will argue that such changes have not all been cosmetic.

So do the developments which have been mentioned so far add up to a 'wave of performance assessment' (Pollitt, 1986a, 1986b)? And if so, why has it happened and should this be regarded as significant? Pollitt sees 'performance' as a central concept in a new

managerial model which is changing the face of public services. Developments at the organisation and policy level since the late 1970s have been accompanied by changes in the nature and style of managerial work, indeed in a dispersal of management functions among professions for whom 'management' had largely been somebody else's business. This, it could well be argued, is not before time. Medical professionals, whether they are working in multidisciplinary teams with a wide range of support staff, or heading a surgical firm, could hardly fail to benefit from becoming aware of the role of organisational politics and the importance of communication and leadership skills, even if direct involvement in budgeting through resource management is not yet ready for universal implementation. Indeed, although not universally welcomed, the Griffiths reforms of NHS management may have served to strengthen the service in the face of threats to some of its most valued features. It has provided considerable career opportunities for 'home grown' managers who felt constrained by the nature of 'administration' in an increasingly complex and competitive service, which may thus have retained skilled and enthusiastic staff tempted to look elsewhere. But is it the most appropriate managerial model?

Pollitt suggests that the current wave of performance assessment has its origins in a co-incidence of an economically-driven policy to reduce public spending and increase value for money, a loss of faith in various professional groups arising partly from perceived failures in implementation of public programmes, and the pro-private sector ethos of the Conservative government from 1979. As well as the desire of central government politicians to impose change on public service managers, the desire of senior civil servants to retain some control over the periphery of service deliverers (to whom responsibility was increasingly being devolved) is implicated. Many of the evaluation activities mentioned or to follow are characterised by an emphasis on efficient deployment of inputs, rather than assessment of the effectiveness of outcomes, and they serve the interests of policy-makers and professionals (including managers) rather than consumers and workers. Pollitt argues in favour of an alternative model of performance which recognises the diversity and distinctive character of public service, and reflects a concern for quality, equity and the public's right to contribute to the evaluation process. We will bear this alternative model in mind when, in later chapters, we design some changes to current performance evaluation activities.

We noted earlier the development of the audit function in health and other public services, in the name of greater accountability. Has this been simply a catching up with established practice elsewhere, or does it have special significance? The perceptions of what public accountability demands in practice, and its structural context, are characterised by greater ambiguity and complexity than may be seen in the relationship between shareholders and directors, for example. These aspects are stressed by Day and Klein (1987) in their recent study of accountability - perceptions and practical impact - in five public services, where they make an important distinction between political and managerial accountability. It

would be convenient if these aspects of accountability could be arranged as a hierarchical model, with policy accountability at the top setting policy objectives, generating criteria for technical managerial accountability in its various forms - indeed, such a model is often assumed to be realistic. However, Day and Klein identify three questionable underlying assumptions of such a model: that 'institutional and organizational links between political accountability and managerial accountability exist and are effective', that 'the political processes do in fact generate precise, clear-cut objectives and criteria necessary if managerial accountability is to be a neutral exercise in the application of value-free techniques' (p.28), and that accountable managers can control the actions and performance of service deliverers. The weaknesses in these assumptions as applied to the NHS are explored in this research.

These, then, are some of the issues with which this research is concerned - planning, performance, policy and politics, the 'four P's'. In the next section we will explore the many issues surrounding the evaluation of health services, in light of the contribution which we expect such services to be able to make to the state of human health. We will also look at the roles played by medicine and health services as part of the wider economy and in relation to the state.

1.2 THE ROLE AND IMPACT OF HEALTH SERVICES - APPROACHES TO EVALUATION OF THEIR PERFORMANCE

1.2.1 The impact of health services on health

Models of 'health'

> **Medical science and services are misdirected, and society's investment in health is not well used, because they rest on an erroneous assumption about the basis of human health. It is assumed that the body can be regarded as a machine whose protection from disease and its effects depends primarily on internal intervention. The approach has led to indifference to the external influences and personal behaviour which are the predominant determinants of health. It has also resulted in the relative neglect of the majority of sick people who provide no scope for the internal measures which are at the centre of medical interest.**
>
> **...misinterpretation of the major influences, particularly personal medical care, on past and future improvements in health has led to misuse of resources and distortion of the role of medicine. (McKeown, 1979, xiv-xvi)**

The way we judge the performance of health services is affected by our assumptions of their purposes, which in turn is influenced by our perceptions of 'health' and 'ill health'. Health policy and health service practice are still strongly influenced by the medical professions, and medical training and culture are still characterised by a predominantly reductionist 'medical model' of health. This sees the human body in terms of diseased or well parts rather than a highly-interconnected whole interacting with its environment, the health of which may not be restored by medical treatment directed primarily at the 'diseased' parts. Yet McKeown's assessment of the contribution of medicine as a determinant of human health (especially over the past three centuries in which life expectancy and populations have significantly increased, and in anticipation of the future) suggests that this dominance may be inappropriate.

The medical model of health with its underlying ethical codes imposes a structural constraint on certain dimensions of health service performance. To the clinicians whose decisions commit the use of NHS resources - those in direct patient contact in hospitals and general practice - the primary duty is to the individual patient. The doctor acts both as agent in obtaining treatment for the patient, and as a supplier, or rather one who specifies the level of production of the supplying unit. The ethical codes and standards governing the former role and giving paramount importance to the individual patient's best interest, override any economic considerations in the latter role of one committing the use of productive resources. The utilitarian ethics of maximising benefits to society (rather than to the individual patient) from the use of health service resources, underlying the economics of health care production, fall to managers, health authority members and politicians to uphold. As resources become increasingly constrained, these conflicting sets of values

become problematic - in the evaluation of health service performance, which should determine the measures used? Can objectives (and constraints) be set which maximise gains both to the individual and society? McGuire and Mooney (1986, pp. 56-7) point out that this tension is further complicated by the role of government in providing finance for the NHS and controlling the supply of trained labour (especially medical manpower), while also delegating considerable self-government to the medical profession. The result does not benefit society in general.

History reveals that social and economic changes rather than developments in medical science have contributed most to improvements in the health of populations. Notwithstanding the contribution of medicine to save or improve individual lives, these wider factors remain the major determinants of health status in Britain and abroad. The availability of reliable and relatively abundant food supplies, protection from physical hazards, and the voluntary limitation of family size (on a scale sufficient to affect population dynamics well before the modern family planning movement) were the key to the improvements in life-expectancy since the eighteenth century. Changes in living conditions, especially in terms of hygiene and purer food and water, played a major role in reducing mortality from infectious diseases including typhoid, tuberculosis and measles (which had increased with population growth and mobility) decades before effective medical and pharmacological treatments became available. Thus increasing numbers of people have come to live lives relatively free of ill health without the intervention of medicine at a personal level. Even if the major modern killers - cardio-vascular diseases and certain cancers - became amenable to effective medical treatment, life expectancy nationally would increase by a relatively small amount compared to changes over the past three centuries, although the differences in life expectancy between social classes should decrease.A substantial proportion of remaining diseases are determined at conception or before birth, and little has changed in the past decade to alter McKeown's conclusion that congenital diseases are 'probably neither more nor less tractable than they were before'. (ibid. p.182) However, medical science is prolonging life for those with specific diseases, although its capacity to effect cure is still comparatively limited. In McKeown's view, the prospects for its role in future are similar, although the diseases of poverty may be replaced by those of relative affluence - that is, a contributory role in changing the conditions in which ill health occurs, rather than the direct application of medical science in controlling the 'body machine'. While few families in Britain today are made ill by extreme poverty (through, for example, tuberculosis or hunger), to maximise the net gain to modern society in terms of overall improvements in health and longevity the challenge is still that of raising incomes and reducing workplace hazards, to the point at which a 'healthy' lifestyle is available to all.

The constitution of the World Health Organisation (WHO) provides an idealistic definition of health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. Following the declaration of a conference at Alma Ata in

1978 calling for 'the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life' (WHO 1978), the WHO's 'Healthy Cities' and 'Health for all by the year 2000' projects (WHO 1982, 1985a) illustrate both the potential benefits and practical difficulties of widening the boundaries of current health care. The Ottowa Charter for Health Promotion (WHO 1986) calls for policy which combines 'diverse but complementary approaches including legislation, fiscal measures, taxation and organizational change' - requiring inter-organisational co-operation on a scale unlikely to be readily attainable in Britain.

Both definitions of health and the relative influences of health services, medicine, lifestyles, environment and genetic makeup need to be considered when assessing the performance of health care services and their component parts. Views of what characterises 'success' and 'failure' in health will be strongly influenced by the role, interests and values of the observer. The ethical and professional duty of clinicians to provide the best care for each patient, the patients' responsibility not to endanger knowingly the health of themselves or others, the roles of the state in food production and economic development as well as in health care provision - each contain seeds for the research into the assessment of the performance of the NHS.

McKeown concludes:

> In the broadest terms, the medical role is in three areas: prevention of disease by personal and non-personal measures; care of patients who require investigation and treatment; and care of the sick who are not thought to need active intervention. Medical interest and resources are focused on the second area and, to a lesser extent, on personal prevention by immunization; the other responsibilities are relatively neglected. ...
>
> The limitations of the traditional concept of the medical role would have been recognized much earlier, if health had not been transformed in the past three centuries by other influences. (p.197-8)

As well as the early critique of the reductionist medical tradition (with its focus on the sick individual) arising from the more holistic social medicine of Chadwick (Poor Law Commissioners, 1842) and Engels (1892), these limitations have been explored by Gremy (1984), Ziglio (1986) and, most critically, Illich (1975, 1977). These more contemporary criticisms, coinciding with a growing public disenchantment with 'professionals' from the 1970s, created a climate favourable to the assessment of performance of public services. Illich's attack on modern medicine as the cause of much ill health, the more measured tones of Jennett (1984), the growing strength of the hospice movement - all are signs that the demand for health care to be not only appropriate and effective but also wanted and understood by the client, are important dimensions in our assessment of the performance of the NHS. A return to the emphasis on prevention of the conditions which lead to ill health is gradually informing UK health policy. Following the report of the Acheson committee of enquiry into the public health function, the role of the community physician at district level

has received greater emphasis. (Acheson, 1988, DoH 1988a). The recent revival of interest in 'public health' has been fomented by pressure groups such as the Public Health Alliance and supported by research institutes (see, for example, Smith and Jacobson 1988), who criticised the Acheson report for retaining a medical model of health. However, the need was established by a government-appointed committee a decade ago, whose report was discounted as unaffordable by the DHSS (Black 1980, Townsend and Davidson 1982). The centrally funded Health Education Authority has also been constrained both by resources and its remit, appearing to have little influence on the sources of inequalities in health identified by Black and others (but see Whitehead, 1987). All of these developments remind us of the limits to the influence which we can expect health services to have on health status of the population. Many communicable diseases cannot be vaccinated against and are food, air or water-borne; and the NHS can do little about the effects of unemployment, stress and poverty on health even with more effective health education.

Measuring health status - dimensions and techniques

One of the fundamental aims of the NHS is the equality of entitlement for the whole population to benefit from the best available health care. Assumptions about health needs are made when resources are distributed to and within the NHS, yet health and other outcomes have to date been used far less frequently as measures of performance than have inputs and processes, so it is difficult to know whether this aim is achieved. Before assuming that it is possible to measure the effects of health services on people's health, we need to consider some of the problems connected with measuring and describing the state of health of individuals and populations.

Both mortality and morbidity are essential measures of health status. Mortality data for the UK have been routinely collected for over 150 years since the compulsory notification of deaths in 1836, and cause of death from 1874. The Office of Population Censuses and Surveys (OPCS) publishes annual statistics of deaths by cause, age, sex, and area of registration; and a decennial supplement is published analysing deaths by occupation and social class.

The accuracy of recorded cause of death may be one of the less reliable features of mortality data, especially in the elderly with multiple contributory causes. Recorded underlying cause of death is inevitably a record of opinion and may reflect the certifying doctor's experience or coroner's policy. This can have wider repercussions, even affecting the allocation of resources to health authorities. From 1977 to 1988 resources have been allocated from central government to regional health authorities (and distributed within regions) according to a formula devised by the Resource Allocation Working Party (RAWP) which was appointed in 1975 to devise a method for the distribution of capital and revenue to health authorities 'responsive objectively, equitably and efficiently to relative need' - in

contrast to the uneven distribution which had persisted since the NHS was established (DHSS, 1976b). One factor in the formula was a weighting for standardised mortality ratio (SMR), as a far-from-perfect indicator of health need. The weighting varies between categories of the International Classification of Diseases (ICD) so the way deaths are classified can affect resources for future patients. For example, deaths from fractured neck of femur with an underlying musculoskeletal disease such as osteoporosis, attract a higher financial allocation than if classified as due to 'injury'. (Pemberton and Cust, 1986). Changes in diagnostic techniques can be relevant here and in many other contexts where resources are planned or allocated for health care.

Less likely to be affected by artefacts of classification are deaths from conditions seen as potentially avoidable up to certain ages, and which therefore provide an outcome-based indicator of performance. A selection of such indicators has recently been incorporated into the new NHS performance indicator package, which will be discussed further in Chapter 5.

Patterns of mortality are shaped by many factors, rendering them difficult to alter in spite of the provision of modern health services (and in an unknown number of cases because of them). Yet because of their relative reliability (and for want of better indicators), mortality data are often used as proxies for morbidity and as indicators of health needs. But most contacts with health services are in connection with conditions which are not life-threatening and are unlikely to become so - quite apart from the health problems which we treat without recourse to the health service or simply put up with. (Butler and Vaile, 1984, quote the finding of a survey by the Royal College of General Practitioners in 1979 where on average only 15% of GP consultations involved acute life-threatening diseases). It could well be argued that improving measuring techniques for morbidity and morbidity-reducing health care activities is more important than worrying about death rates; after all, death comes to us all in due course and years of good quality life lost through premature death in modern Britain are trivial in comparison with the years spent encumbered by disablement and ill-health. For example, taking some statistical 'snapshots', there were 531,150 deaths in England in 1987 when the estimated mid-year population was almost 47.5 million (DoH 1989m). In 1985/6 an estimated 5.2 million people in Britain had travel difficulties related to health (Dept. of Transport, 1989). 32% of males and 34% of females reported a longstanding illness, and 12% of males and 15% of females had had their normal activities restricted because of illness or injury in the two weeks before being interviewed for the 1986 General Household Survey (OPCS, 1989a). To explore the question of morbidity further we first need some definitions of categories; as in the case of definitions of health, the WHO broad brush is not a practical tool for measuring levels of ill-health in the population. Butler and Vaile (op cit, pp.25-9) provide a helpful review of such classifications.

First, disease - 'the presence of clinically diagnosed abnormalities in the structure and function of the organs and systems of the human body... the named pathological entities that make up the medical model of ill health, ...and which can be specifically identified and

described by reference to certain biological, chemical or other evidence.' This definition empowers the medical profession to define where structure and functioning become abnormal, which can be contentious particularly in the case of mental health.

The second category, illness, 'is commonly used to denote the subjective feeling by the individual of not being well.' We may be diagnosed at a check-up as having a disease, yet not have felt unwell; and it is not only hypochondriacs who feel they have illnesses which doctors are unable to diagnose in terms of detectable disease.

A third category, sickness, is used to denote 'the special status accorded to those who are socially recognised as being unable, for reasons of ill health, to carry out their usual social roles and obligations.' Originating in American functionalist sociology (Parsons, 1951), the concept of the sick role explains society's mechanisms for coping with the disruptions of illness and disease; for example people defined as 'sick' in this social sense are expected to seek professional help in return for being temporarily absolved of their usual obligations at home or work.

Like ill-health, disablement is often imprecisely defined, but some concepts have been used in a parallel fashion to distinguish impairment, disability and handicap. Impairment 'is used to denote "the loss or abnormality of psychological, physiological or anatomical structure or function"', closely resembling the concept of disease. Disability is '"any restriction, resulting from an impairment, of ability to perform an activity in the manner or within the range considered normal for a human being" ... There is a greater objectivity in this concept of disability than in the parallel concept of illness, but the behavioural component is still there.' Finally, 'handicap is used to describe the "disadvantage resulting from an impairment or disability that limits or prevents the fulfillment of a role that is normal for that individual." The extent of handicap will vary from one person to another, even though their impairments may be comparable'. The social incapacity aspect links handicap with the concept of sickness.

So what do we know about morbidity in the U.K., and what can we reasonably expect the NHS to do about it? The short answer is that we know comparatively little about the health status of the population; and once morbidity is translated into demand for medical treatment, we often have only a partial understanding of the most effective and appropriate remedies. We do not have the right sort of information to know whether, for example, steadily increasing trends in hospital activity represent the effect of greater supply, demand or underlying need for care. As health promotion and illness prevention increase in importance, new information is needed for the design and evaluation of activities. How do people perceive their own health and that of their families; what do they understand about factors affecting health; and how does this understanding affect their behaviour? The changes to health service information systems following the implementation of the Körner reports (NHS/DHSS Steering Group 1982-5, to be discussed in the next subsection) are of

little help here. However, we can note some of the available tools for measuring health status in the light of the dimensions of health and disability, and individual and professional perceptions.

Tables 1.1 and 1.2 list some of the major sources of 'official' data available to health service policy makers and planners at local and national level; a number will be discussed in later chapters. These, judiciously used, can at least aid the assessment of 'demand' for health care if not the more subtle aspects of 'need'.

Table 1.1 Major sources of data available to health policy makers collected independently of the NHS.

Office of Population Censuses and Surveys (OPCS) - various population data; disablement survey, 1989; longitudinal study of individuals; epidemiological trends.
Decennial Census (OPCS), small area statistics (some collected and analysed in consultation with the NHS, 1991 will include question on long-term illness)
General Household Survey (GHS), and Mental Health Enquiry - morbidity, domestic behaviour (Great Britain, OPCS)
Registration data - Registrar General, births and deaths; Public Health Laboratory Service, notifiable communicable diseases, cancer registry (in collaboration with NHS)
Private health care data (from providers, and via the GHS)
Insurance company, pension scheme etc. actuarial data, Government Actuary's Department
Social Fund and other Social Security, (un)employment data
Local authority data - poll tax, rating, housing stock, social services - Key Indicators of performance
EC, WHO and other international data, relevant epidemiological trends
Market research.

Table 1.2 Major sources of data available to health policy makers collected by the NHS.

Data about hospital and (less common) community activity e.g. former hospital in-patient enquiry (HIPE), hospital activity analysis (HAA); post-Körner replacements e.g. hospital episode system (see 1.2.2)
GP activity, various data collected by FPCs, 'yellow cards' for adverse drug reactions
Local population registers e.g. mental handicap and illness, GP age/ sex registers
Data from clinical research and audit projects, Royal Colleges etc.
School / child health records.

Measurement of the health status of local populations is gradually becoming more common, in 'health profiles' covering one or more of the dimensions of ill health and disablement described above. Measurement is essential if we are to assess the impact of health services both in terms of clinical efficacy, and qualitative and quantitative outcomes reflecting individual and community perceptions and priorities. Data from sources such as those in Tables 1.1 and 1.2 can be augmented by locally-collected material appropriate to specific needs by community groups (Radical Statistics Health Group, 1987) or by performance indicators by health authorities (Performance Indicator Group, 1988).

The value of any data depends, naturally, on their suitability for the user's requirements. Much official data may be of comparatively high quality in terms of reliability (criteria discussed in Section 1.5), but their particular value may come from their consistent collection over time and place, or compatibility with data from other sources. We see health authority performance being judged increasingly by comparing indicators such as workload; but we need to be able to assess how far local circumstances differ in material ways. Similarly, comparing local or national trends over time requires an assessment of the extent to which 'other things have remained equal'. The use in management decision-making of health outcome indicators based on 'avoidable mortality' will depend on combinations of, for example: morbidity or mortality data, the costs of treatment undertaken or foregone, the benefits (economic, personal, social) resulting from more or less successful treatment. One could argue that their value also depends on what can be done to change performance in the preferred direction. While there may seem to be limited merit in collecting costly data to find we are doing badly at something we can do nothing about, if we can afford to maintain some form of surveillance we may find trends which suggest

causal relationships which could lead to action. We do need to know what 'better' performance means; success is often relative and dependent upon particular interests or viewpoints.

Finally, having identified some aspects of the role and nature of information for planning and evaluating health services, we need to recognise some of the constraints on the availability of information. Firstly, cost - collecting, storing, retrieving and analysing information has both 'opportunity costs' (alternative priorities which cannot therefore be funded) and direct costs, including equipment, space, staff time, materials and public goodwill. Therefore, proposals to collect more or new data need to be justified in cost-benefit terms. Second, because information about the health of individuals or groups can be misused in cultural or power relationships, people can be expected to be reticent in discussing their health status, whether they are in good or poor health. The urgent need for good epidemiological and behavioural information about HIV infection, and the debates aroused by plans to collect it, provide a wealth of illustrations here and abroad.

1.2.2 The 'Körner' system of health services information

The Körner system for health service information has already been mentioned in passing; a brief description is needed. Until the establishment by the then Secretary of State for Social Services of a joint NHS/DHSS Steering Group on Health Services Information in 1980, management information in the NHS had never been subject to a comprehensive review. Specialised working groups were set up and produced six reports between 1982-5 covering information about:

1. hospital clinical and diagnostic activity
2. patient transport
3. health services manpower
4. hospital and community activity including paramedical and maternity
5. services for and in the community
6. health services finance.

The committee was chaired by Mrs. Edith Körner, so the reports produced and sets of data recommended have acquired her name. The main aim of the review, which included wide consultation with the NHS (but little input from information scientists), was to establish a series of 'minimum data sets' to provide district health authorities and officers with information for management and the allocation of resources. This emphasis on district

needs was an innovation. Aggregated district data was intended to meet the needs of regions, through whom some information about districts would be channelled to the DHSS. While the new sets of forms and electronic data transfer make explicit links between finance, manpower and activity from which information for planning and annual review purposes can readily be produced, most data are aggregated at district level so little information about units of management is available. (Indeed, doubts have been expressed about the relevance of minimum data sets to districts too.) The recommendations of most of the reports were implemented from April 1987 although some, mainly those relating to community services, were not introduced until 1988.

Problems in implementing Körner have included: the lack of trained staff; some major problems with equipment which delayed implementation in a number of regions and districts; discontinuity in data because of the poor quality of some of the early returns; the staggered implementation, which weakened the availability of data about community services (very poorly served too by the previous information arrangements); and gaps and missed opportunities for links between data items, limiting the information about outputs.

The strengths and benefits of the new system have included the delivery of reasonable quality data, for most returns, from all health authorities by the second quarter after implementation; standardisation of data sets; a raising of the profile of 'information' per se; and an incentive for the development of computerised integrated patient information systems, networks, databases and the like. Subsequently health authorities have been required to develop strategies for information management, on a national pattern and incorporating Körner information. However, although the system is only a few years old the rapid developments in computer systems since the Körner deliberations began, and forthcoming changes arising from the 'Working for Patients', have made some aspects of it redundant or inadequate.

Significant aspects of Körner information for the purposes of performance assessment include:

- the replacement of discharges and deaths as the main measure of hospital activity, by the Hospital Episode System (HES). The 'consultant episode' is a basic building-block for other linked records of episodes of in-patient treatment by one or more consultants, providing reports on spells of treatment in a district which may have been on more than one hospital site. 100% data is given to the DoH (as opposed to a 10% sample from the former Hospital In-patient Enquiry);

- an increase in data available at national level, some now quarterly rather than its annual pre-Körner equivalent;

- the incorporation of data on mental illness and handicap activity into the main data-collection system;

- availability of hospital activity data only three months after each quarter, (rather than the previous delays of up to 18 months);

- recording of consultant episodes by the specialty of the consultant rather than by hospital department;

- more information about waiting times for treatment - but only at district level;

- the introduction of specialty cost returns - analysing by specialty the net expenditure on patients using a bed, out-patients and day patients (those who receive treatment but do not need to stay overnight;

- new data about the reasons for staff absences and departures, and the attainment of planned staff deployment.

Limitations include: the exclusion of those not seen by a doctor from data on outpatient activity; difficulty in identifying which hospital stays were unplanned readmissions for the same condition; coverage only for England; the ending of the recording of available beds by specialty and its replacement with 'intended available bed days'. There is lack of continuity between some pre- and post-Körner equivalents where they exist (although a number of additional returns have been introduced to facilitate comparison, including annual recording of discharges and deaths by specialty, at least for the time being). Very limited information is available about morbidity, patients' socioeconomic circumstances, or care received from GP and community health services; and record linkage is in its infancy. A new set of DoH performance indicators has been developed based on Körner data but the poor quality of the early data has delayed the introduction of some indicators.

Further information about the Körner information system may be found in the Reports of the NHS/DHSS Steering Group on Health Services Information (NHS/DHSS Steering Group, 1982-1985); DHSS circular HC(84)10 (DHSS, 1984b); Orchard (1989); Day (1985).

1.2.3 Evaluating health services - whose objectives and whose interests?

In his report on Social Insurance and Allied Services, the blueprint for post-war freedom from want, Beveridge (1942) set out the following aims for a national health service:

> ...a comprehensive national health service will ensure that for every citizen there is available whatever medical treatment he requires, in whatever form he requires it, domiciliary or institutional, general, specialist or consultant, and

will ensure also the provision of dental, ophthalmic and surgical appliances, nursing and midwifery and rehabilitation after accidents. Whether or not the cost of the health services is included in the social insurance contribution, the service itself should

(i) be organised ... by Departments responsible for the health of the people and for positive and preventive as well as curative measures;

(ii) be provided where needed without contribution conditions in any individual case.' (pp. 158-9).

Although the health service as a whole rarely appears to ask itself 'Where are we going? What business are we in?', on the occasions where its fundamental goals <u>have</u> been examined (Royal Commission on the National Health Service, 1979) the outcome has remained remarkably similar to Beveridge's original conception.

The NHS had political origins, and has remained in the political arena throughout its forty years. Some problems of politics and policy that make planning and implementation, and performance improvement - the 'four P's' - issues worthy of systemic investigation, include the relationships between powerful professional and political interest groups, and between the various roles the health service plays within its economic and social environment. Aspects of these relationships are outlined next.

<u>Health, medicine and the State</u>

Governments and rulers of Britain in past centuries have not appeared unduly concerned about the nation's health. However, with the development of a competitive world economy, universal franchise and taxation of incomes, governments stand to gain considerably from a healthy population. Quite apart from changes in the value placed on human life per se, demographic change in the twentieth century makes it more than ever economically important to husband our human resources well. One tool is the provision of health care.

The NHS owes its creation and continued existence to the political forces of central government. As individuals we contribute politically through our votes in general and local elections, and local government has its formal contributions to health and social services regulated by central government. Thus health care is firmly rooted in the political system, and regardless of recent moves to 'take the politics out of health' by removing local councillors from health authorities, party politics shapes the priorities set in health policy and the relative importance afforded to health as a recipient of public funds.

A conflict of interests between more or less powerful groups - ambitious politicians, medical professionals, and advocates of carefully planned long-term health care development - is probably inevitable. There are also tensions between the centre and periphery - both within the NHS, and between central and local government. Such tensions can contribute to problems with implementation of policies such as community care for people with mental handicap or illness, and controlling acute spending.

The role of the state is not confined to the activities of government and parliamentary chambers. In common with many other countries, public and private providers of health services in Britain are subject to a range of regulations and statutes. These include building regulations and planning constraints, fire and (more recently) hygiene rules, pharmaceutical pricing, dental and optical charges, the detention of the mentally ill, and the establishment and running of residential and nursing homes - all are thus constrained. The implementation of the recommendations contained in the 1989 White Papers on the NHS, 'Working for Patients' (HMSO, 1989) and 'Caring for people' (DoH, 1989e) will introduce a further range of regulations - some of which impinge on clinical practice to an unprecedented degree, although in the context of a more 'free health care market'. Pluralistic theories about power and organisational decision-making such as Lindblom's 'disjointed incrementalism' (Lindblom, 1954) may apply to an extent in relation to professional/ central government relationships, but within the NHS ancillary workers in particular have had their power eroded through privatisation. And in spite of recent customer relations initiatives, consumers of health care are rarely able to exercise their power.

This leads to some theoretical considerations. While this is a field of consistent interest to policy analysts, political scientists, economists and other disciplines, here we are interested in the contribution which systems thinking could make. One of the strands of our analysis could be the exploration of the extent to which systems approaches can assist with problems of power and politics in health care, and the roles of different stakeholders in setting and pursuing objectives. Another is the contribution of systems thinking and practice to problems of complexity and interconnectedness which characterise health service issues, such as the co-ordination of care provision by different organisations. Political conflict and competition operate at the expense of coordination. The spending departments compete with one another for allocations from the Treasury, and the health needs of an individual, care group or community may be met by fragmented resources provided through several spending departments.

For example, apart from the obvious provision of hospital and community health services by the Department of Health (DoH), housing, education, social services and environmental health are catered for through local authorities - county and district councils. These receive central funds through the Departments of the Environment and Education, together with locally raised rates. One might expect a certain amount of coordination of bids for

government spending reflecting these interrelated interests and responsibilities when policies such as moving long term care into the community are introduced. However, inter- and intradepartmental consultation and modelling of policy options does not seem to have been a common feature at central government level, although a set of 'policy ground rules' was adopted in the DHSS in 1987 (personal communication). Encouraging strong devolved decision making at local government and health authority level may be counter to the political and career interests both of ministers and civil servants. The effectiveness of joint planning by health, local government and voluntary bodies for housing, education and health areas of mutual concern has been hampered both by political conflicts of interest, and the complexity of organisational arrangements required to meet the often-unpredictable health care needs of individuals.

The NHS as an employer

As at 31 March 1988 the NHS in England employed directly 762,120 whole time equivalent (WTE) staff (Public Expenditure White Paper, 1989). Around 5% were doctors and dentists; of the more numerous categories, almost half were nursing and midwifery staff; some 13% were in administrative and clerical jobs and 14% ancillary workers. Naturally therefore, for a great many people the criteria of performance of considerable concern are those connected with conditions of employment, rather than the attainment of formal policy objectives. Indeed, they may sometimes conflict. For example:

- NHS wages and salaries are relatively low, and a variety of bargaining or wage-setting arrangements exist. At present local NHS employers have little or no input into negotiations and for those whose pay rises are decided by review bodies, the DoH does not always fully fund the award so increased salary costs have to be found from cuts elsewhere. So meeting wage aspirations is difficult, and loyalty may not always be sufficient for staff retention.

- training and staff development have traditionally received inadequate attention. Although training strategies are now being developed, the full cost of covering for staff absent for training can be prohibitive. So the career aspirations of staff may be hard to satisfy, even with innovations such as 'Project 2000', the new professional nurse training system. (UKCC 1986)

- while the NHS employs a relatively high proportion of women and members of ethnic minorities, white males are disproportionately represented in all senior areas, especially management and the medical profession but also in nursing. Barriers to equal opportunities for women include the lack of flexibility in working hours and childcare provision - likely to prove an increasing problem both for employers and employees in future.

- In terms of health and safety, nursing and ancillary staff are particularly at risk - of back injury, burns and scalds, infection and stress, and attacks by patients. Together with potentially less favourable conditions of service and job security arising from competitive tendering for ancillary services, these factors combine to produce a pattern of low status and reward for a large group of health service workers.

Thus where the majority of staff are concerned, their interests in, and expectations from, the health service may well be very different to those of managers and doctors, let alone those of civil servants and politicians.

Health services in the wider economy

Looking for interconnections, we need to consider the role of the NHS in the local and national economy. Changes in NHS objectives or performance may have a significant impact outside its boundaries. With an overall allocation of £22 billion for the NHS in England in 1990/1, of which 67% will be spent on pay, the NHS plays a major economic role as a spender as well as a recipient of funds. It may well be the largest employer in a town or city, providing many domestic incomes.

The NHS buys a wide range of goods and services - for example, pharmaceuticals, medical equipment, legal services, foodstuffs, uniforms and linens. It may be the sole purchaser from many small suppliers, and changes in procurement and tendering procedures can have a significant effect on local economies, especially if nationwide firms can spread their costs more widely than local ones. Changes in policy for service provision, such as the introduction of 'healthy eating' policies, can produce a boost to the producers of skimmed milk and pulses, and make quite a dent in sales of butter and bacon.

The NHS provides a very large market for the pharmaceutical industry, and drug companies spend a great deal on advertising and promotion, often direct to doctors, spurred on by the drive to cash in on successful formulations ('me too' products). Already hospitals substitute cheaper generic for brand name products where possible; GPs are urged to do likewise - and their prescibing practice is increasingly closely monitored.

'Income generation' is an initiative introduced with the 1988 Health and Medicines Act that urges health authorities to meet a proportion of their financial needs primarily from commercial uses of NHS premises or staff - leasing hospital rooms to florists or providing occupational health screening to firms, for example. The overall income from these activities is projected to rise from £25 million in 1989/90 to £70 million in 1991/2 (Public Expenditure White Paper, 1989, chap.14, para.37). These activities may be meeting new demands, or diverting trade from other local outlets.

Another economic effect of the NHS is its role as a customer of the private medical sector, as well as supplier of staff. This 'public/private mix' or collaboration between the NHS and private medical services has always been present in the context of private practice by consultants also employed in the NHS, undertaken on NHS or private premises. Many people would still prefer to see the two kept separate so that the private sector is not subsidised by the NHS (although the private sector is unlikely ever to meet the cost of staff training). However, the creation of 'internal markets' which include private hospitals, and the use of private facilities to reduce waiting lists, have brought the two sectors closer together. It is quite possible that the availability of private facilities will become a factor in local planning, thereby reducing further the attainment of the objective of provision of a comprehensive service in each district.

There has long been a public/private mix in terms of the provision of nursing homes, chiropody and ophthalmics, complementary medicine (homeopathy, acupuncture etc.), health-related activities such as sports and fitness clubs and classes. If we are to take a wide view of the determinants of good health, we need to address this area. Perhaps there are contradictions in opposing private medicine (some of which has charitable rather than profit making status), but not opposing other commercial activities related to health. Clearly it is unrealistic to hope that the NHS (or some wider public health system) can provide all the resources with a health impact, even if this were desired. And in seeking a more holistic approach to health we tread a narrow path between 'empowering' forms of self help and 'survival of the fittest'.

In Chapter 3, when we look at the formal objectives of the NHS, we will consider the appropriateness of some of the developments described above. Indeed we must reflect on the appropriateness of the objectives themselves, originating as most do from a rather different period of economic and social history. In the next section we will review the evolution of the NHS, which reflects a mixture of historical accident, culture and fashion, economics and explicit political policy-making. Although some fairly radical changes are proposed for the NHS of the 1990s, much of its underlying structure and functions has remained relatively untouched by the political complexion of government. Both Labour and Conservative health policies now espouse the causes of greater consumer choice, clinical accountability and 'better management', although their routes to these goals will vary with party philosophies. As we will see, central interference in the running of the NHS has been sustained throughout its forty years and 'taking "politics out of medicine"' (Elston, 1977, p.45) is neither realistic nor reasonable within existing accountability relationships. Nonetheless, through a combination of autonomy, resistance and inertia the service shapes its own destiny to a considerable extent.

1.3 1948 TO 1988 - FORTY YEARS OF THE NHS.

1.3.1 Introduction.

This section provides a description of the history and formal structure of the NHS and some important health policies. The NHS planning and performance review systems are covered in detail in later chapters, but the aim here is to provide the context for some performance-related issues which have given concern during this research.

Changes in the state of communal and individual health over the past two centuries have owed at least as much, if not more, to public health and sanitation measures as to developments in medical science and care. The enduring separation of provision of hospital services, general practice, housing, environmental control and other social services reflects their distinctive origins of such services which the formation of the NHS in 1948 and subsequent local government changes have still only partially countered. Co-ordination of services or redistribution of responsibilities has occurred through coincidences and compromises between influential interest groups and individuals more or less directly involved in the political process, rather than explicit actions to integrate services.

The demands of World War II on hospital services revealed the poor standards of many local authority and voluntary hospitals, as the Ministry of Health learned from a number of surveys. With plans for post-war reconstruction under way and widely publicised by 1942, the 'Beveridge Report' (Beveridge, 1942) on social insurance embraced both comprehensive social security and a national health service. The wartime coalition government was divided in its support, however, and proposals in the 1944 White Paper on 'A National Health Service' (Ministry of Health, 1944) drawn up by the Conservative, Henry Willink, were opposed by various interested groups. The 1945 general election prevented its final draft being published, and Labour's victory gave Aneurin Bevan the task, as Minister of Health, of seeing the NHS to fruition. This involved negotiating both with factions in the Labour Party and the Socialist Medical Association, and with the British Medical Association (BMA). Plans for the removal of hospitals from local authority control (deemed unsuitable for hospital administration) to direct control by the Ministry of Health were opposed by the local authorities and their voice in the Cabinet, Herbert Morrison, but Bevan held his ground. The National Health Service Act which was passed in 1946 (National Health Service Act, 1946) embraced concessions to doctors still problematic today - conceding independent contractor status to GPs, part-time contracts to consultants, the distinction awards system, and the separation of health and local authority services. Bevan succeeded in persuading the medical profession that the NHS should cover 100% of the population. But old divisions, inequalities and idiosyncracies were perpetuated, and with Bevan's aim of a health service funded mainly by general taxation the battle with the Treasury between 'costs' and 'care' has been ever-present. However, for the population of

Britain the choice between costs or care for individuals and families was now primarily a choice for the state to make.

Ham's (1985) view of legislation being little more than a record of bargains struck in the health policy community is a persuasive one in this case. After two years further negotiation, the 1946 National Health Service Act finally came into operation on 5 July 1948.

1.3.2 The early years.

Many of the problems which have kept the NHS in the headlines have their roots in the haphazard pre-NHS arrangements for health and welfare provision. A tripartite structure was adopted, reflecting the need to accommodate powerful interests - professional and local authorities - rather than an attempt at a well thought-out design for an effective health service. Appointed executive councils administered family practitioner services (GPs, dentists, opticians, pharmacists), funded directly by the Ministry of Health. Their role was administrative rather than managerial, and supplanted the former Insurance Committees. Local authorities retained their responsibilities for environmental and welfare services including maternity clinics, health visitors, vaccination and immunisation and ambulances. Funding was partly central and partly from local rates, and the Medical Officer of Health was in charge locally. The wartime regional organisation drawing together all types of hospital was retained. But hospital administration reflected a greater break with pre-NHS practice - Regional Hospital Boards (RHBs), Hospital Management Committees (HMCs) and Boards of Governors. The Boards of the teaching hospitals (elite old voluntary hospitals) were directly accountable to the Minister of Health, while HMCs were accountable to the Minister through the RHBs. Today's RHAs broadly reflect these original regions.

The Beveridge Report had assumed that the health needs of the population were finite and would be satisfied and gradually reduce with the availability of the free NHS. In its early years, spending on the NHS far exceeded that estimated by parliament. Concern at the implications led the Guillebaud Committee to be established in 1953, to examine costs and funding of the NHS and efficiency and control. Its Report (Guillebaud Committee, 1956) concluded that relative cost as a proportion of GNP had decreased rather than risen, being 3.5% in 1953-4, and refuted suggestions of inefficiency. The need for more resources and greater co-ordination between the three parts of the service was recognised, and eventually the 1962 Hospital Plan, a major hospital building programme, began to remedy some of the past neglect of capital investment.

That Plan (establishing the concept of the District General Hospital) was, however, a relatively isolated instance of a comprehensive national review and plan. While GPs had been the mainstay of the NHS, by the 1960s their uneven geographical distribution and separation from hospital consultants had hardly changed. The development of health centres and primary health-care teams did not really gather speed until the 1970s. Similar

inequalities in provision and lack of service integration in the local authority health and welfare sector was revealed in the 1963 Ministry of Health report 'Health and Welfare: the development of community care'. Later in the 1960s central measures were introduced to encourage GPs to set up practices in under-resourced areas, but the relative autonomy of local authorities constrained the impact of the Health and Welfare Plan and inequalities persisted. Central government identified the groups mostly still considered today as having priority needs for better community care - mothers and young children, the elderly, mentally ill and mentally handicapped people - but local authorities were slow to respond. Local authority ten year plans made in 1972 separated medical from social work and welfare services, which strengthened social work services but did little to improve the co-ordination of the three NHS strands which many patients need to draw on during the course of an illness - hospital, outpatient or home visits by community nursing staff, and GP care.

A series of scandals in long-stay hospitals for the elderly, mentally ill and handicapped during the '60s and '70s illustrated weaknesses in communication and control both within and between NHS sectors and levels. The complexities of changing professional behaviour and public interests and values regarding these groups remain problematic for local and central NHS management.

The 1973 National Health Service Reorganisation Act (NHS Act 1973) and reorganisation of 1974 attempted to address some of these longstanding problems. Although further changes such as reorganisation in 1982 established the current structural and management patterns, the 1974 changes introduced many features of the NHS as it was in 1988. Figure 1.1 shows the basic elements and their administrative links.

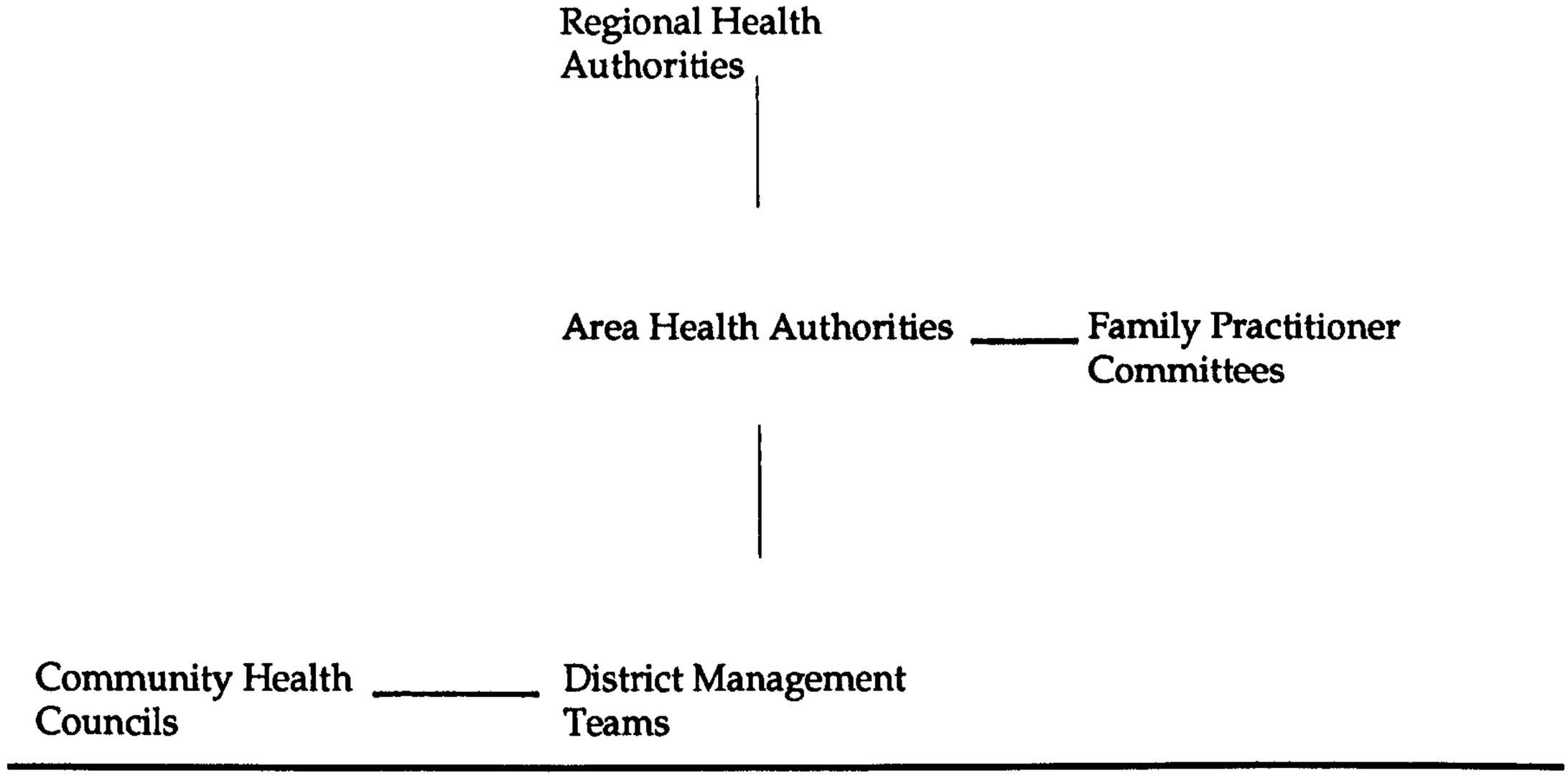


Figure 1.1 Simplified structure of the NHS in England, 1974-1982.

1.3.3 Re-organisation: the role and composition of health authorities and Community Health Councils from 1974.

This subsection describes the changes leading to the NHS structure and administrative arrangements which applied during the period of this research. Table 1.3 summarises these changes, followed by an outline of the roles and composition of the main administrative bodies.

NHS structure after the 1974 reorganisation.

The desire of successive Labour and Conservative governments was to improve performance, and in the comparative absence of public sector models private sector practice shaped most of the changes of the early and mid 1970s including the introduction in 1976 of the corporate planning system. The changes will be described below in the context of their subsequent alteration in 1982, and further in Chapter 4.

The role and practice of management in the nursing and medical professions as well as administrators had been examined, and changes recommended, consolidated and promoted by the Conservative government in the 'grey book' on 'Management arrangements in the re-organised NHS' (DHSS 1972). Following the 1973 NHS Reorganisation Act, the aims of the 1974 reorganisation were:

- to unify health services - though this remained incomplete because GPs remained independent contractors and some teaching hospitals had their own boards of governors;

- to improve NHS / local authority co-ordination, through the introduction of coterminous boundaries and the establishment of Joint Consultative Committees (JCCs) for service development, involving Area Health Authorities and county or borough councils;

- to improve NHS management and decrease its cost - with multidisciplinary consensus management teams (each member of which could effectively veto team decisions) including doctors, and a DHSS goal of 'maximum delegation downwards, matched by accountability upwards'.

The 1974 reorganisation was followed by considerable criticism particularly of its over-bureaucratic nature and the delays and administrative costs incurred; industrial action flared up, especially by ancillary workers, and medical opposition to the phasing out of pay-beds. In 1976 a Royal Commission was set up by the Labour government, chaired by Sir Alec Merrison, 'To consider in the interests both of the patients and of those who work in the National Health Service the best use and management of the financial and manpower resources of the National Health Service.' (Royal Commission, 1976). It reported in 1979, re-stating the original objectives of the NHS and rejecting alternatives to the Exchequer as the source of funds (Royal Commission, 1979). The Commission's wide-ranging examination resulted in recommendations and conclusions including: the undesirability of any charges for NHS treatment, the retention of a tax-based system of financing, the removal of a tier of administration, the abolition of Family Practitioner Committees (FPCs) and the strengthening of Community Health Councils (CHCs). The Commission also stressed the desirability of devolving as much decision-making as possible from the DHSS to regional health authorities who should be directly responsible to parliament through their chairmen or senior officers, leaving to the centre only those activities - such as resource allocation to regions - which could not be devolved. The post '74 structure in Scotland, Wales and Northern Ireland was now less similar to England than it had previously been; the differences are described briefly by Ham (1985, pp. 29-30).

The implementation of its recommendations fell to the new Conservative government and eventually many of them were adopted with effect from 1982 - although commentators at the time of the Report's publication were sceptical about the prospects of significant change. For example, Dr Donald Gould in the New Scientist's 'Comment' column wrote:

> ... it would not be surprising if [the government] rejected the sensible recommendation that ... drugs should be prescribed by their generic names ... for this would deal a heavy blow to the pharmaceutical industry. It also seems unlikely that the government will choose to enrage the British Medical Association by acting upon the recommendation that Family Practitioner Committees should be abolished. ... Where the Royal Commission itself seems to have lacked imagination is in its approach to positive health and preventive medicine ... nothing is said about the problem of what proportion of finite resources should be applied to high technology medicine ... What with the omissions of the commission, and the attitude of the present government, it is probably fairly safe to assume that, by and large, as things have been, so they will remain. (Gould, 1979.)

Some of the desired changes - the inclusion of hazards arising from pollution, agricultural practice and food processing in the remit for preventive medicine, and the true unification of health services for example - are still being fought for today ten years on. However, each of the main changes which were introduced satisfied some interested parties - CHCs, set up in 1974 to represent the views of the public, were retained; the Area tier of administration (coterminous with local authorities) was removed; and the appointed membership of Regional Health Authorities (RHAs) and District Health Authorities (DHAs) was retained. Thus local and health authority links again became harder to make. FPCs, which had been coterminous with Area Health Authorities, were retained and in 1981 plans were announced for them to be further separated from the hospital and community health services (HCHS) as they were given independent status in 1984. In spite of the introduction of joint finance and planning, the co-ordination of health care provision was, if anything, weakened by FPC independence. In the HCHS, management responsibilities were increasingly delegated to unit level, and the Conservatives' concern to control management costs set the tone for many further policy developments. The financial cost of management and administration fell from 5.12% of the total NHS budget in 1979-80 to 4.4% in 1984-5 - maintaining the UK position as a particularly low spender in this area and contrary to the view that a large proportion of NHS money is spent on bureaucracy (National Association of Health Authorities, 1985).

Figure 1.2 illustrates the administrative links in the English NHS following the 1982 reorganisation.

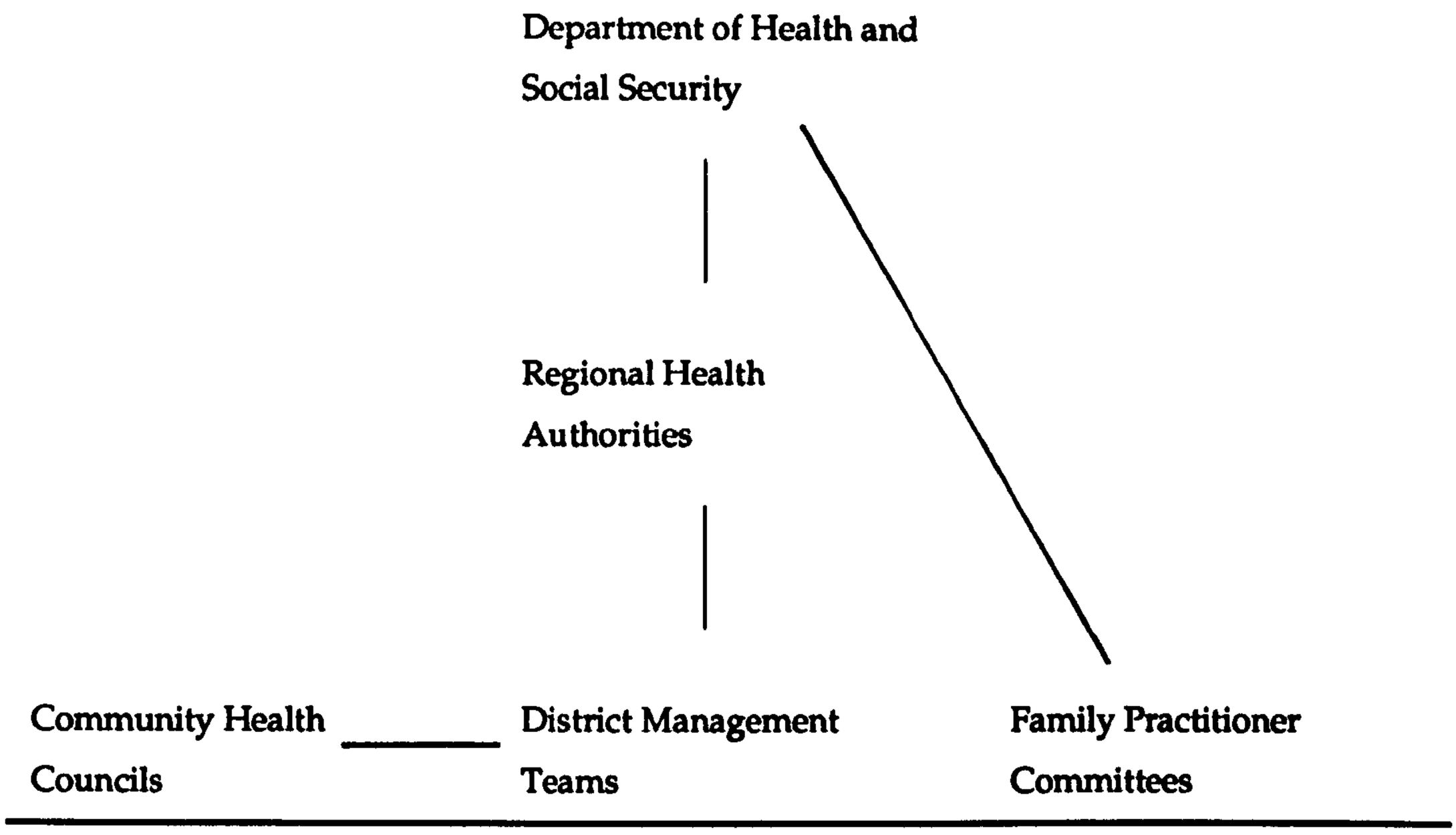


Figure 1.2 Simplified structure of the NHS in England, 1982-1987.

A recent change in the central administration of the NHS was the division of the Department of Health and Social Security (DHSS), set up in 1968. It was originally headed by the Secretary of State for Social Services, with considerable delegated powers and policy-making responsibilities. In July 1988 the DHSS became two separate departments, each with its own Secretary of State accountable to parliament and each having a duty to fight in the Cabinet for resources for their department. In this thesis, references will generally be made to the central department as it was termed at the time of interest - the DHSS to 1988 or Department of Health (DoH) from July that year.

<u>Changes since 1982 - management and accountability.</u>

The 1982 changes however were not regarded as adequate to streamline the NHS and improve aspects of its management effectiveness. In 1982 a further NHS inquiry was set up, this time a small team headed by Roy Griffiths (now Sir Roy), Managing Director of J. Sainsbury plc. The enquiry was swift, private and focussed explicitly on NHS management and resource utilisation. Its report (DHSS, 1983) concluded that the lack of a clear general management function hindered effective decision-making and delegation. Rational pursuit of measurable objectives, and responsiveness to consumer demands, were also impaired by bureaucracy and consensus management. Doctors needed to become more directly involved in management especially as it related to resource use. Clearer lines of

accountability through NHS levels to the centre were desirable and a stronger central strategic management role should be established.

The recommendations of the Griffiths Report were largely adopted by the government following brief consultation. General managers were appointed in regions, districts and units, and central Supervisory and Management Boards were set up in 1984 within the DHSS. Initially these boards were chaired respectively by the Secretary of State, Norman Fowler, and a newcomer to the NHS, Victor Paige (with general management experience in, for example, the National Freight Corporation). The former Board included Roy Griffiths, the government's chief medical and nursing officers and the permanent secretary, while the management board was dominated by civil servants - outside appointments (promoted as a source of new ideas about management effectiveness) were in the minority.

Implementation of the Griffiths recommendations has continued. Management budgeting (now termed resource management) and quality assurance were introduced through pilot schemes and local initiatives but are now becoming mandatory. General management at each level is firmly established, with individual performance review and short term contracts. However, any impact on patient care is hard to assess (Harrison 1988, Maxwell, 1988). Although the concept of general management was presented as a recipe for local health authority and managerial autonomy, central government involvement in operational as well as strategic health policy has continued to shape centre/periphery relations. Although the implementation of Griffiths undoubtedly brought personal as well as organisational uncertainties to the fore yet again, and was received with considerable scepticism and opposition, it has also provided opportunities and an impetus for changes in style and culture not encouraged by previous structural changes.

Details of the newly-established annual review system (endorsed by Griffiths), individual performance review and quality assurance function widely established following the Griffiths Report, will be given in later chapters. Figure 1.3 illustrates the organisational structure of the NHS between 1987, when the Griffiths recommendations had had their full effect, and 1989 (when the Supervisory and Management Boards were replaced by a Policy Board and Management Executive, respectively).

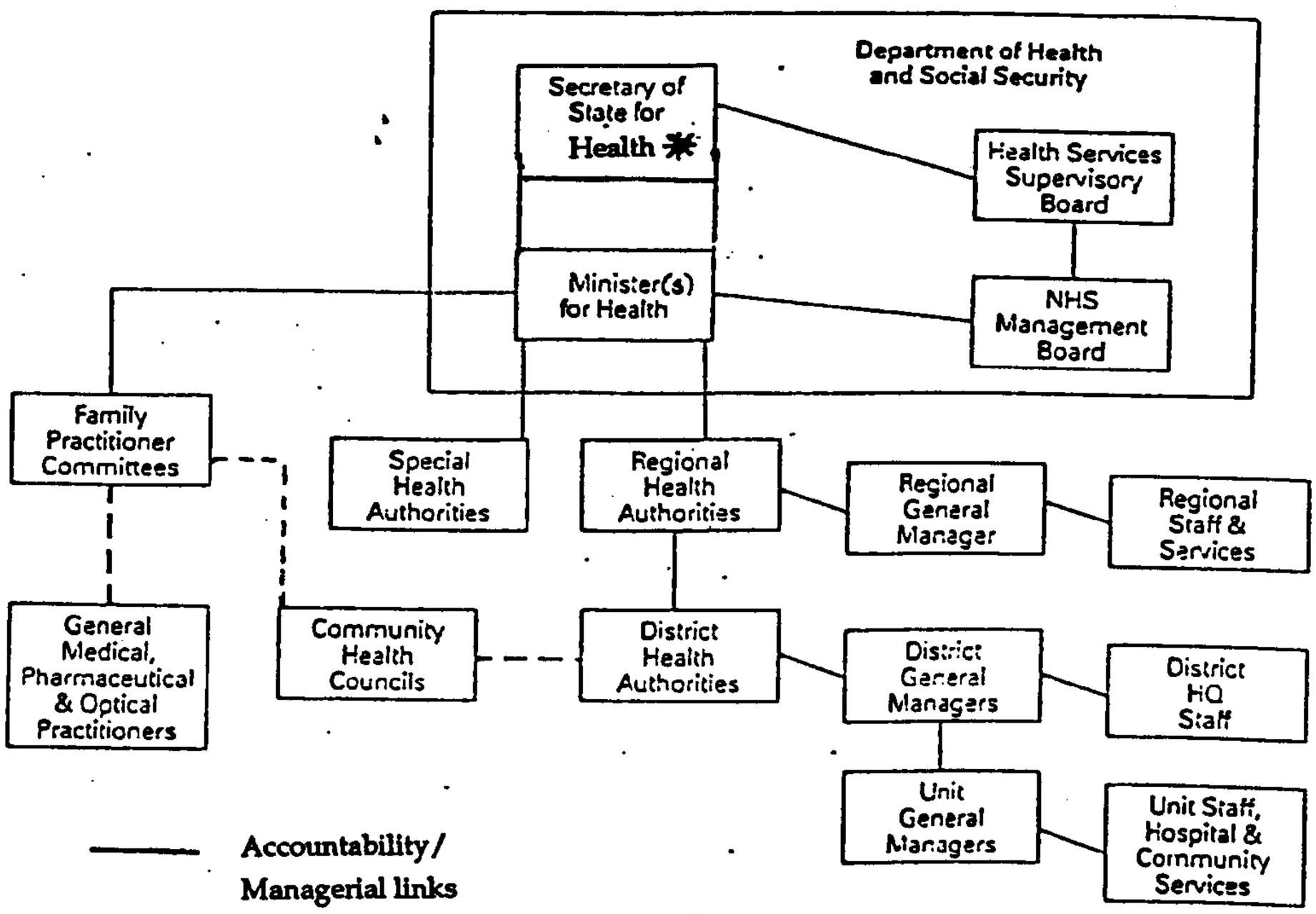


Figure 1.3 Simplified structure of the NHS in England, 1987-9.

Harrison (1988) assesses the extent and nature of the changes, describing the role of the manager in the NHS until the early 1980s as that of the diplomat - solving problems and ironing out organisational difficulties, rather than implementing major changes. They were facilitators for, rather than aspiring controllers of, doctors; their value systems had much in common and the political context did not place them in conflict or expose their comparative lack of power over clinicians. The position changed, however, as a number of central government initiatives including the implementation of Griffiths placed the responsibility for change upon managers - Harrison sees this new position as that of the scapegoat, responsibility without power. In implementing initiatives which challenge clinical freedom, managers have become the agents of government, an 'enforced new alliance' which challenges the influence of clinicians. 'Contemporary management reforms represent an attempt to shift the frontier of control between government and physicians' (Harrison 1988, p.73). The pressure to conform to central requirements is stronger on managers at regional level, not least because regions run few services directly and are regularly mooted as an unnecessary tier of bureaucracy. Further, according to Harrison, central control is more

readily exercised over quantifiable and financial aspects of policy, than over qualitative dimensions such as quality assurance and implementation of management budgetting.

The Griffiths report and other managerial innovations of the early to mid 80s have yet to have a major impact on clinician involvement in management, or on management control over clinical resource use, and manager-doctor conflicts have apparently been few. Significant examples of any sort of shift in the frontier of control have come directly from the government, as in the introduction of the limited list of common drugs for prescription, or more recently in the 1989 NHS White Paper 'Working for Patients' (HMSO, 1989) with its imposition of clinical audit. Indeed, its proposals such as internal markets and the self-governing hospital route towards cost-containment may be examples of Harrison's 'radical scenario' (ibid. p.129) chosen in the face of perceived failure of the Griffiths and other 1980s reforms to stem the demand for health care.

The government's readiness to adopt such a radical scenario suggests that it places a higher value on mechanisms for cost-containment than on the changes in management and organisational culture which have followed Griffiths slowly but perceptibly. With the development of a variety of management structures, innovations in quality assurance and performance evaluation, and the enthusiatic embracing of management training and development in many districts and regions, Parston (1988, p.24) sees the 'sense of local control as one of the strongest features of the cultural evolution now occurring in the NHS'. Instead of an identical national format for senior management teams at each NHS level, general managers and health authorities had devised a variety of patterns which did not necessarily include a clinician or nursing manager (although, at least initially, central approval of proposed management structures was required).

The blossoming of management education was aided by the establishment in 1983 of the new National Health Service Training Authority (NHSTA) (Dearden, 1986). The seizing of marketing opportunities by private and public sector management training centres has continued in response to subsequent central policy developments as well as to evolutionary growth in demand from districts and units. Parston perceives a new spirit in NHS management, although it is too early to hope to see substantial change in managerial performance. However, the developments are fragile:

> What effects these management changes will have on the contending public concerns of securing within available resources the best deal for patients, the best value for taxpayers, and the best motivation for staff - the 'driving forces' behind the Griffiths team's advice - will depend upon how sensitively they are adapted to the political dynamics and historical structures of what remains one of the world's largest non-military public sector organisations. It is not altogether certain to many observers that the distinctive features of public sector management are always recognised, either in government policy on the health service or in NHS Management Board directives. If that is the case, it could prove the undoing of the evolution. (Parston, p.33).

At the beginning of this chapter we noted Pollitt's description of the 'wave of performance assessment' sweeping the decks of the public services from the late 1970s, bringing an increasing focus both on financial accountability and stringency. However, the appropriateness of the assessment focus has continually been challenged both from within the service, and in a number of forums where 'the NHS' meets 'the public'. A suspicion of bureaucracy and an interest in the efficiency of public services has, in the case of the NHS, co-existed with calls for greater resources overall and an expansion of the caring and preventive services as well as curative acute medicine.

The main administrative effects of the reorganisations of the 1970s and 1980s are summed up in Table 1.3 below.

Table 1.3. NHS administrative reorganisations: the main changes, 1974-1988.

Date of implementation	Reason	Effect of change
1974	1973 NHS Reorganisation Act	JCCs link health authorities (HAs) and local government; 3 tier NHS administration; GPs separate; consensus management; CHCs set up.
1982	1979 Royal Commission report	Abolition of Area tier; FPC independence (1984)
From 1984	Griffiths Report (1983)	Supervisory and Management Boards at DHSS; general managers at region, district and unit levels; end of consensus management.
1988		DHSS split into Dept. of Health and Dept. of Social Security

Roles of health authorities and CHCs.

An outline of the roles and membership of Regional and District Health Authorities, Family Practitioner Committees and Community Health Councils follows, before the description of the most recent reorganisations.

The 14 Regional health authorities in England manage supra-district services (those not provided in every district) such as plastic surgery, and blood transfusion services; they hold the contracts of consultants and provide some management support services. Resources are allocated to districts by the RHA, who provide an interface between them and the DoH. Regional general managers and their senior management team are accountable to the RHA, a managerial body of up to 20 members of which two-thirds are appointed by the Secretary of State and one-third are nominated by local authorities (soon to be removed following 'Working for Patients').

District Health Authorities, 190 in England, also comprise an appointed body supported by a management team headed by a general manager. Included on, or closely involved with, the district management board, are unit general managers who head hospital and community services. Since the introduction of general management following the Griffiths report, described in the next subsection, management teams no longer have a standard membership as the consensus teams did from 1974; the general manager has greater managerial autonomy. DHA members are mostly appointed by region and include representatives of the voluntary sector, the FPC, local authorities (for the present) and trade unions. Their role includes policy-making and disciplinary matters regarding staff; like local government, DHA members generally approve certain types of proposals drawn up by officers, rather than having much input at intermediate stages. The chairperson, appointed by the Secretary of State, plays a more active role. The district level is the focus for co-ordination between health authority, family practitioner and local authority services (although their geographical boundaries are not co-terminous); since 1976 Joint Consultative Committees and planning teams have brought such organisations together to plan the use of centrally-allocated joint funds, primarily for care for the elderly and handicapped. Both DHA and RHA meetings are open to the public.

Family Practitioner Committees administer the contracts of family doctors, dentists, pharmacists and opticians, who are independent contractors. In 1987 and 1988 FPCs began to share in the NHS management revolution, with the introduction of rudimentary performance indicators, performance reviews (annually by civil servants, five-yearly by ministers), and a new planning system. The appointment of general managers, instead of administrators to head their staff, has recently been completed. Family practitioner committees themselves comprise thirty members appointed by the Secretary of State, half of whom are clinical professionals; the fifteen lay members include those nominated by DHAs and local authorities.

At the risk of sustaining the unhelpful organisational separation between hospital and community health services (administered by DHAs and RHAs), and family practitioner services, in this research the focus is on the former.

Community Health Councils exist to represent the voice of patients, individually and collectively, to the NHS; but since their establishment in 1974 their future has been threatened on several occasions. CHCs have 18-24 members, half drawn from local authorities, one-third from voluntary organisations and one-sixth 'generalists' appointed by the RHA. Each health district has a CHC, with a small staff of whom the Secretary is a key figure. Their main duties are: to provide individual patients with information about local health services; to assist them in pursuing complaints about services; and to respond on behalf of patients and the local community to plans - routine short term programmes and specific proposals for service changes - from both the DHA and the FPC. A representative from the CHC attends the meetings of these bodies. Although many health authorities and GP services are now actively seeking patients' views on services, there remains a role for a more independent body to represent and assist patients particularly when their problems reflect differences between professional groups in the health service, especially as once local authority members are removed from health authorities there will be no other routes for patients to contribute to local health policy making.

1.3.4 Feedback to the NHS?

The formal structure of the NHS does not include many openings for the public to contribute their views on present or future services. While local services often receive thank-you letters, and community groups may occasionally comment on plans, formal routes for feedback from patients about performance have largely been negative and hard to navigate. The NHS complaints procedures differ for hospital, community health and family practitioner services. The revised hospital complaints procedure (DHSS 1988h) instructs health authorities to make their procedures accessible, deal with complaints promptly, and analyse the patterns of complaints from which valuable managerial lessons can be learned; but complaints statistics are far from straightforward indicators of performance, reflecting the articulate tip of a largely-reticent iceberg. There are separate and elaborate procedures for complaints about standards of clinical care, which are difficult for patients to pursue successfully.

Where complaints cannot be settled locally, since 1973 recourse to the Health Service Commissioner has been available for non-clinical matters, and reports of the Commissioner's work are published as 'epitomes', providing information for organisational learning (and see Day and Klein, 1987).

Although other public services (schools, social services) have independent national inspectorates, arrangements for external scrutiny as part of the accountability process are piecemeal in the NHS. Apart from occasional studies by the National Audit Office and financial audit inspections (soon to be augmented at local level by the Audit Commission),

the main organisations which can visit health authorities and advise about management and care delivery, are:

- The Management Advisory Service (MAS) - set up in 1982 with DHSS funding, initially on a pilot basis, to contribute to 'strategic monitoring' (of the implementation of policies and strategies) and 'efficiency monitoring' (seeking the best use of resources). The current MAS is a self-financing management consultancy. (See Ham, 1985)

- The National Development Team for Mentally Handicapped People (NDT) works with health authorities to improve standards of care, explore and develop new modes of provision, and develop services for particular age groups.

- The Health Advisory Service (HAS) was formed in 1976 to advise the providers of services for mentally ill people about improving service standards and making changes. The reports of HAS visits and health authorities' proposals for action have to be made public, and multidisciplinary HAS teams give feedback on their findings to the Secretary of State. Implementation of their recommendations cannot be enforced although it is likely to be pursued through the annual review process.

- The Mental Health Act Commission was established under the 1983 Mental Health Act to protect the rights of those detained in hospital compulsorily (about ten per cent of patients in mental illness hospitals). The protection thus offered to these people against abuses of power by those running such hospitals may be extended to voluntary patients too by the Secretary of State.

Thus although there is provision for official feedback about services for some groups of patients - those most vulnerable, relatively isolated in institutional care - there is no equivalent for acute services or community and general practice. However, peer review (self-regulation) in the acute sector is slowly becoming more common, and the professional bodies and Royal Colleges play an inspection role in approving hospital departments for training purposes.

Chapter 6 describes the proliferation of 'quality assurance' initiatives which include obtaining feedback from consumers, although rarely about the quality of clinical care (see Leneman et al, 1986). As public disquiet about the NHS has increased (particularly with the sustained pressure on resources and cuts in services), pressure groups have also flourished. Some, such as Health Rights, seek more direct democratic participation in health decisions locally.

Many groups combine the provision of practical support and information for members with lobbying for resources and fund-raising for research or public awareness. Some focus on particular medical conditions, while others like the College of Health (with origins in the

Consumers' Association) have a broad range of concerns. The latter organisation on a large scale, and numerous local self-help groups, share a concern that people should be more involved in, and have more control over their own health.

Although the present government has urged the NHS to become more responsive to patient needs (while providing incentives, for those who can afford it, to opt for private treatment), until very recently its emphasis has been on the dissemination of good practice rather than firm requirements. This is now changing, as we will see in Chapter 6. In the next section we look at some of the major developments in health policy over the past 15 years.

1.4 CRISIS IN THE NHS? THE POLICY CONTEXT

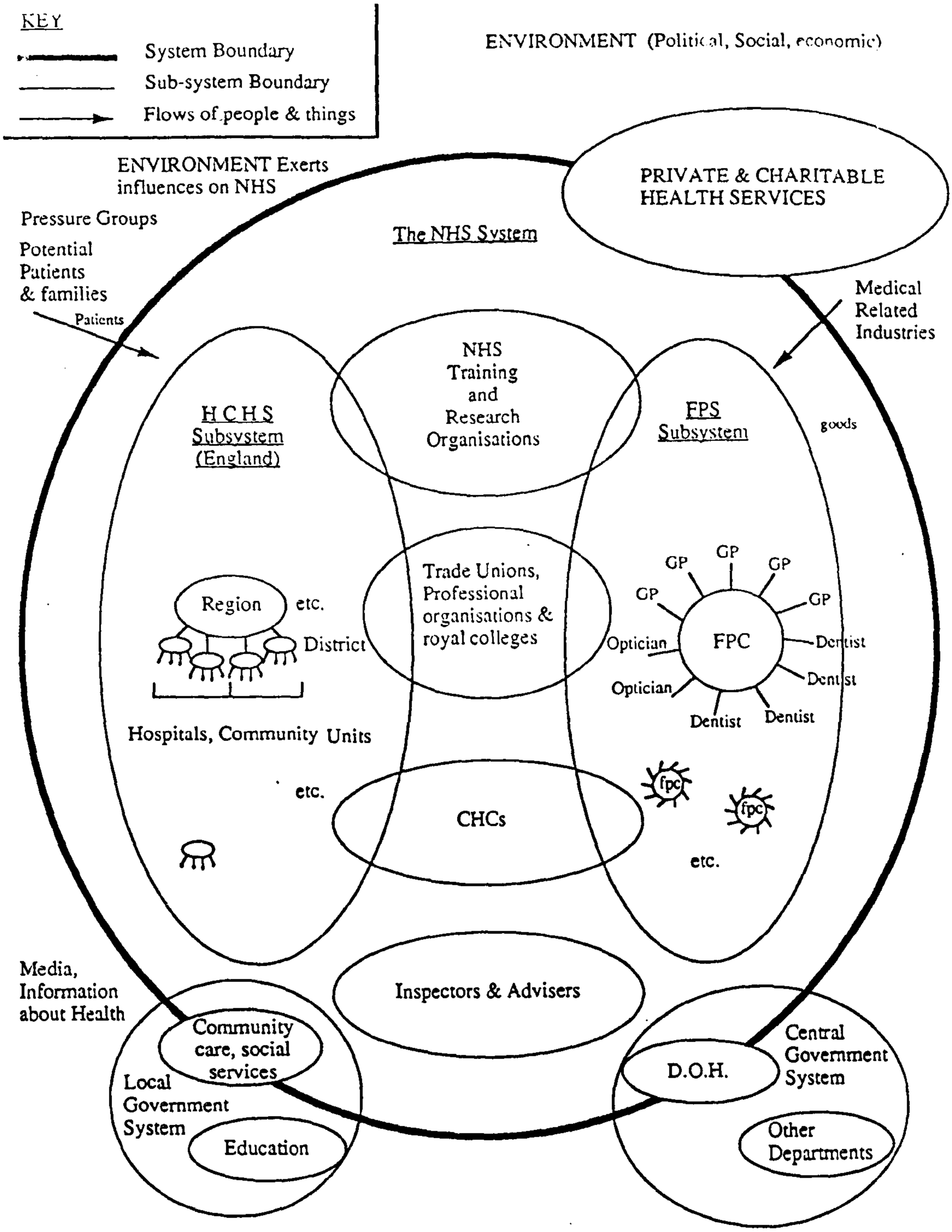
1.4.1 Introduction

In this section we will review briefly some of the major health policy developments which have particular relevance to our investigation of health service performance evaluation - and the political and public debate about the 'crisis in the NHS'.

1.4.2 Policies and policy-making since the mid 1970s

While health policies may have their origins in party manifestos (although some significant recent developments have not) and be shaped by the personal preferences of ministers, they may also exhibit continuities over time. The influences of civil servants and the strength of the medical profession (and other professional groups to a lesser degree) may explain some common features of Labour and Conservative policies during the period in the seventies and early eighties when the NHS was reorganised more radically than over the previous 25 years. Equally important have been the healthcare demands (but not necessarily health needs) of the British public, which have exhibited trends common in other developed countries too. Figure 1.4 illustrates some of the groups and organisations which can exert influences - strong or weak, direct or indirect - on the NHS. The location of such groups in the environment or wider system of the NHS implies that while influences may operate in both directions, the NHS cannot control them.

Figure 1.4 The National Health Service in its environment.



Health service resources

Although since taking office in 1979 the Conservative government has steadily increased the charges for certain NHS services, the main source of NHS funds remains taxation. Of the 1990-1 public expenditure allocation, 78.3% will be met from taxation, 4% from charges, and the balance mainly from NHS contributions through National Insurance. (Source: the Chancellor's Autumn Statement, 1989). There have been several inquiries into alternative methods of funding, and growth of private sector healthcare provision and demand has been encouraged. However, until the 1989 NHS White Paper 'Working for Patients' (HMSO, 1989), the explicit operation of market forces in which the NHS participated was confined to the private practices of some clinicians using NHS facilities, competitive tendering for ancillary services (an innovation of the early 1980s) and to the purchase of services in the voluntary and private sectors such as hospice places. The development of the 'public/private sector partnership' is an increasingly important task for NHS managers.

In spite of the inclusion of the NHS in drives to cut public spending, successive governments have argued on many occasions that more money than ever is being spent on the service and, as health authorities are required to become more efficient, resources available for patient care are still increasing. Clearly it is more important to see how much health care, and of what quality, has been purchased with those resources, or what proportion of health needs have been met. But meaningful calculations are almost impossible, especially as the NHSPI, the price index for goods and services on which the NHS depends, has increased more rapidly than general inflation.

A number of influential groups, most notably a 'consortium' of the BMA, Royal College of Nursing (RCN) and Institute of Health Services Management (IHSM) have argued over several years that as a result of demographic change, medical advances and public spending cuts the NHS needs an increased allocation of at least 2% in real terms to keep pace with the known growth in demand (see for example Maynard and Bosanquet, 1986). While the DHSS has on occasion accepted the validity of this '2% debate', it has continued to place increased emphasis on efficiency savings or 'cost improvements'. Since 1976 health authorities have been subject to strict cash limits, and since 1981 it has been assumed, when budgets are set, that at least 0.5% of their revenue will be generated from internal efficiency savings - such as cost improvement programmes, Rayner-type scrutinies and competitive tendering, (discussed in later chapters. In 1987, cash releasing cost improvements by English health authorities generated savings of 1.4% of revenue, and the proportions planned for 1988/9 and 1989/90 were 1.4% and 1.1% respectively. (Source: Social Services Committee, 1989, table 1.3.) More effective management - leading to more efficient health services - was the thrust behind the recommendations of the Griffiths enquiry, but on many occasions the autonomy implied by general management has been overriden by further

initiatives from the centre which regions or districts have been required to adopt (such as the 'income generation' initiative mentioned in Section 1.2.3).

Although substantial savings have been made and waste undoubtedly reduced, in many places in-year cash flow problems and end-of-year deficits have become inevitable, especially when pay awards (until now negotiated outside the control of health authorities) have not been fully funded and inflation has exceeded the government's estimates made when resources were allocated. The provision of additional funds to compensate for such shortfalls has occurred on a number of occasions, usually in anticipation of (or in response to) strong professional or public concerns.

Additional funds have also been provided at several points during the 80s, 'top sliced' from the allocation for the NHS and earmarked for particular central policy priorities. In 1976 the consultative document 'Priorities for health and personal social services in England' (DHSS 1976a) drew together existing policies and indicated the order of priority which health authorities should apply to different service programmes as they developed their first strategic plans. However, the desired shift in spending away from acute and maternity services was slow to materialise. Conservative governments since 1979 have taken a firmer line with regions, and through them the districts, regarding unfavourably authorities which have not hurried to bid for special funds (for community care projects and services for AIDS patients, for example). The DoH has monitored the effectiveness of the use of funds provided for the reduction of waiting lists very closely, switching the money to other projects if schemes do not meet expectations.

Since the 1962 Hospital Plan, attempts had been made to reduce the unequal distribution of resources between regions, but the focus had been on the distribution of additional rather than total resources, which had had little effect. Redistribution clearly needed to be phased in, and the RAWP formula introduced in 1977 (DHSS 1976b, mentioned in 1.2.1) represented a major change in approach. Used in allocating revenue and capital, the formula attempted to reflect need rather than existing provision, and included demographic factors (population size, age, sex and marital structure, fertility rate), epidemiological factors (standardised mortality ratios for a number of conditions), and an allowance for cross-boundary patient flows between regions and London weighting. In 1980 the formula was adjusted to take account of the additional costs of teaching hospitals. Applying the formula, a notional population for each region was arrived at, and the total revenue allocation divided between regions in proportion to their population. This provided the allocation which the region 'should' receive, its target allocation; it was compared with the previous years' allocation and the distance from target calculated. Those furthest from their targets received the greatest increases (the 'RAWP losing regions' being the four London authorities, Oxford and the South West). A similar approach to capital funds was adopted, and regions were encouraged to operate a RAWP-type formula in their allocations to districts to reduce internal inequalities (such as from the central London to the shire county

health districts). By 1988/9, nine of the 14 regions were within 2 percentage points above or below their revenue targets, although lobbying from the losing London regions had produced additional funds for them in 1988 and the formula had received many criticisms. Not least were concerns over the inadequacy of standardised mortality ratios (SMRs) as proxies for health status and needs, and the focus on inputs rather than resource use. A lengthy review of the formula was completed in 1988 which among other things explored ways of reflecting social deprivation, but before its recommended revisions took effect the 1989 White Paper 'Working for Patients' announced the ending of the RAWP approach on the grounds that it had more or less completed its task, and the formula was not used for the 1988/89 allocations.

Next, some policies for redistributing resources between groups of patients are introduced.

Priorities for care

The 1976 'Priorities' document had suggested that as overall resources for health care grew the growth should be concentrated on primary care, services for the elderly and mentally and physically disabled, mentally ill people and children. These priorities should be reflected in the strategic and operational plans of regions, and detailed input targets and service norms were suggested by the DHSS in an attempt to control health authorities - but by 1979 the shift away from acute service developments showed little sign of happening. The incoming Conservative government took a more directive stance in terms of priorities; 'Care in action' (DHSS 1981a) set out broadly similar groups to which health authorities were to give priority following the 1982 reorganisation. The approach taken by the government (at least initially) was to devolve these responsibilities to health authorities, having stressed its expectations of them, rather than defining norms or setting target allocations for specific care groups centrally.

Even with the increasing central interventions such as those mentioned earlier in this chapter, and the inclusion of central policy objectives in regional and district plans over a number of years now, the relative shift of resource inputs away from the acute sector has yet to have a significant impact on care provision. Explanations and remedies for the problems of plan implementation are at the heart of several of the performance-related topics to be analysed in later chapters; here we will note the progress or fate of several more policy developments.

The quest for the replacement of often-ineffective care in large long stay institutions for the elderly, mentally ill or handicapped, by community-based care has crossed party political divides, and largely eluded governments over twenty or more years. Revelations of neglect and ill treatment of patients in a number of institutions; the growing proportion of the population aged over 75, many of whom are handicapped by physical or mental infirmity and place an increasing cost burden on the NHS; and changing perceptions of the needs of

the handicapped and mentally ill - all have contributed to making community care an attractive alternative. However, it is not proving to be a cheap alternative, as successive governments have found. Problems have arisen through replacing the economies of scale of large hospitals with purpose built community homes, often running in tandem for years; overcoming planning constraints; persuading clinicians that a family or community home environment is best for the patient even if it is less convenient for them; recruiting or retraining staff in new skills. Probably the greatest area of success to date has been in the care of those with mental handicaps or learning difficulties, most of whom are not 'ill'. There are now very few such children in hospital, and an increasing number are integrated into normal schools, but for those over the age of 18 there remains an acute lack of provision. This reflects some of the problems which have beset the elderly and mentally ill too - the many demands now being placed on family members, especially women, with very little support for the carers; the lack of resources for local authorities to take on a greater share of care, in spite of joint finance; and the need to create a new sort of 'community' as well as new locations for care provision. Health authorities have been given greater powers to inspect the burgeoning private nursing home sector, but additional resources for such activities have been very limited. Experimental schemes to develop new approaches have rarely become trend-setters, although the DHSS' 'Balance of care' computer model aimed at helping health and local authorities to design multi-mode services for the elderly has been well-received.

Many of the issues revealed by perennial question about progress towards community care have been addressed by inquiries in recent years. Of these, the recommendations of the Cumberlege report on neighbourhood nursing (DHSS, 1986a) were largely accepted in 1987, but while they provided an impetus for team-based care they have presented problems in bridging the DHA/ general practitioner divide. Some of the recommendations conflicted with those in the 1987 Primary Care White Paper (DHSS, 1987a) and a further pall of uncertainty hung over the implementation of the recommendations of Sir Roy Griffiths' 1988 report (DHSS, 1988g) on the whole field of community care until the publication in November 1989 of 'Caring for People', the White Paper on community care (DoH, 1989d). This 'pig in the middle' position for those who seek more home-like care for the Cinderella groups is likely to persist while vested professional and political interests disagree over the use of limited resources, leaving the weaker professional groups (nurses, health visitors, social workers) caring for vulnerable patients/ clients who are often without a voice of their own.

Another lobby which has to date been relatively weak is that supporting health promotion and public health. Government support for the World Health Organisation's 'Healthy cities' and 'Health for all' initiatives has been muted, and the response to evidence of damage to health which challenges the tobacco, alcohol and food industries has been highly ambivalent (see, for example, Radical Statistics Health Group 1987, pp. 155-171). Although

health authorities have been given greater responsibilities for public health following the government's acceptance of the main recommendations of the Chief Medical Officer (Acheson, 1988), they have not been given new resources or powers to tackle the largely economic pressures which lead to pollution and poverty (DoH, 1988a).

These then are some of difficulties which those charged with developing priority services have experienced - a mixture of technical, political and organisational complexities which have been shared to an extent with those originating the policies. The acute services which have been accorded low priority for developments, and implicitly expected to give up some resources, have been faced with their own pressures. Schemes for clinical budgeting, peer review, technology assessment and the like have provided examples of ways for clinicians to gain a greater understanding of the financial costs and health benefits from the resources they commit. Ham (1985, pp. 153-6) reminds us of the limits placed on interference with clinical autonomy from outside the profession, and the many routes by which doctors can make inputs to health policy at district, regional and DHSS levels. However, the policy messages which they in turn have received have been unclear. There have been sporadic government requirements for increased activity - renal, heart and bone marrow transplants, breast and cervical cancer screening for example. The unceasing flow of medical developments has contributed to shorter lengths of stay and more intensive use of beds as well as new treatments. Demands on doctors to change their performance if the DHSS performance indicators have revealed low throughput or high costs per case may well lead to higher activity and therefore increased overall spending. Doctors are faced with public pressures to keep up to date regardless of the efficacy of new and more costly treatments, and this combines with the professional ethos of doing what is best for each particular patient regardless of cost. There have been pressures too with the onset of the AIDS pandemic, only partly compensated for by special government funds and requiring new combinations of acute, community and terminal care.

Thus we have a confused picture of policies and priorities in the late 1980s. Most service programmes have priority status at least in part, yet even if efficiency is increased each is under serious pressure for financial and manpower resources. Over-riding desires from both Labour and Conservative governments to curb public spending have combined with organisational and inter-organisational complexities and the political sensitivity of the NHS to limit major change. Ham (1985, p. 130) suggests that the failure of non-acute priority services to obtain their intended increased share of resources was partly attributable to 'the discretion given to health authorities, and the lack of an effective mechanism for analysing strategic plans and controlling NHS performance within the DHSS.' The development of general management, information technology, the planning and review systems and reduction of geographical inequalities in financial inputs could have set the scene for real policy development. At present it appears that only a few of these innovations will be harnessed in the service of implementing 'Working for Patients', while strategic planning,

community care and service integration remain in the doldrums. Explorations of some of the issues raised in this section which have taken place within the DHSS are considered in Chapter 4 when we discuss NHS corporate planning, and the attempt to clarify the status of a number of central policies in an important health circular (DHSS, 1988b). This circular distinguished between policy aims and service objectives and was the product of considerable DHSS and ministerial deliberation.

1.4.3 The recurring NHS 'crisis'

Nationally, while the NHS has been described as being in a state of crisis on many occasions since its inception, it has developed an increasingly high political profile through the 1980s. Although it could be argued that until 1989 there had been few major changes in policy direction affecting the actual delivery of care since the mid 1970s, public and professional concern about the apparently deleterious impact on health service performance of existing fiscal policies has been growing apace. Not everybody would share Professor Rudolph Klein's view that 'The public at large see this (crisis) on TV night after night, in the newspapers, on radio and they ... become convinced that the health service is breaking down ... what we've got is an example of mass hysteria - and I think that is new' (BBC Radio 4, 'File on 4' 15.1.88).

After the Prime Minister's Review of the NHS (contemporary with Klein's diagnosis), 'Working for Patients' (HMSO, 1989) left many in a state approaching shock. The White Paper, its 'working papers' (DoH, 1989e-l) and associated legislation will not be considered in detail here because of the early stage of implementation at the time of writing, but aspects of its potential impact will be explored from time to time. While its requirement for medical audit could improve an area of performance of almost universal concern, most of its provisions cannot readily be construed as furthering fundamental NHS objectives. The creation of self-governing hospitals, practice budgets, internal markets and capital charges place NHS services in direct competition with the independent sector and do little to further equity of access and provision. It also has centralist features which could 'undermine the local discretion of health authorities and their managers, inevitably pulling play back to the Department and the Management Board, and likely leading to the failure of general management' (Parston, 1988, p. 33).

In examining the White Paper critically, however, we are obliged to admit that everything in the garden has not been rosy. The central and local innovations of the 1980s do not seem to have pushed forward community based care for the 'Cinderella' groups, or given much impetus to health promotion, or had much effect on the apparently endemic conflicts between other groups in the 'policy community'. A shortage of funds is not the sole cause of long waiting times, brusque responses to patient's questions, cold lunches and warm ice-cream. Given the size of the NHS - as an employer, and spender of public money, as well as

health care provider - its performance is rightly a matter of wide concern. Political and managerial accountability demand visible and effective systems for performance monitoring and evaluation, indeed the pressure for realisation of these demands can be seen as part of the 'wave of performance evaluation' (Pollitt, 1986a, b) which we noted in Section 1.1.2 and cannot simply be attributed to the policies of an individual government.

The fortieth anniversary of the NHS was a focus for opposition to health policy and relative priorities, involving political parties, pressure groups and many members of the public - a combination of celebration and protest in which the fundamental aim of the NHS to provide care free at the point of use and funded through taxation, largely removing the fear of ill health from ordinary people, was reaffirmed. A school project I saw in Edinburgh provided poignant illustrations, through the perceptions and experiences of families and neighbours of the pupils, of health care before and after the NHS. This brought to life the historical material in exhibitions such as that presented by the Wellcome foundation in London. (See Granshaw, 1988). The next forty years of the NHS seem destined to be characterised by as much uncertainty and controversy as the first, and this research seeks to draw some lessons from the recent past in a selection of areas which will be relevant to a more or less changed future NHS.

As well as these dynamic elements, the complex and hierarchical nature of health services, embedded in an equally complex political, social and economic environment, makes them an attractive subject for a systems study. Devising and implementing relevant and effective ways of monitoring and evaluating health service performance is no simple matter especially if the rationality for the evaluation is political or social, rather than technical or economic (see, for example, Veney and Kaluzny 1984, p. 25 et seq.), and in the next section we will explore some practical aspects of the assessment of organisational performance. Then in Section 1.6 and 1.7 the way in which systems approaches have been employed in an exploration of such assessment in the NHS. At the heart of this research lies a desire to develop an increased role for systems approaches in improving the effects of the NHS on people's health. This cannot be regarded as a universal panacaea - the 'politics of health' limit even the potential influence of current systems approaches. The research will explore the inevitability of such a boundary.

1.5 MEASURING THE PERFORMANCE OF ORGANISATIONS

1.5.1 Introduction

The earlier sections of this chapter have indicated the limits to the powers of the NHS in shaping the health status of the nation, and how the service is organised to perform its preventive and curative roles. How the NHS itself and other interested parties assess this performance, and to what effect, are the subjects of the current inquiry. But why should we, and many others, regard performance assessment as worthy of attention? With the apparent increase in evaluative activity, are there common measurement processes and purposes? Section 1.5 explores some aspects of these questions.

1.5.2 Why measure organisational performance?

Goal attainment?

The obvious, rational purpose of performance measurement is to ensure that objectives and targets are being met, and evaluation of the outcome of this process will indicate the nature and magnitude of any action to be taken. However, as later chapters will illustrate in relation to health services, the nature of such objectives as well as their content will have implications for the measurement process.

Goals which can reasonably be required to be optimised or maximised, objectives which are relatively specific and widely endorsed, may make the choice of tools for measurement and evaluation comparatively simple. Even so, there are likely to be different interests and viewpoints providing a range of perspectives on what appropriate approaches comprise. Individuals may be interested in the performance of their subordinates because of its effect on the way their own performance is assessed, regardless of higher level organisational objectives. Organisations characterised by heterogeneous activities and aims, ambiguous information and uncertainty about the relationships between inputs and outputs, make performance evaluation relatively problematic. (Klein 1982, Lloyd 1988).

Performance and control

If organisations did not interact with their environment or involve independent-minded human components, organisational processes could take place in a predictable way and it would only be necessary to ensure that inputs were commensurate with the desired outputs. But it is rarely useful to see complex organisations as such closed systems. Our lack of understanding of causal relationships and the significance of (often unpredictable) influences from the organisational environment impose a need to monitor intermediate

outputs and (where possible) eventual outcomes and be prepared to adjust inputs so as to bring performance closer to desired levels.

Social inevitability?

Much organisational activity involves some notion of accountability, of those making decisions or carrying out tasks being obliged to a more or less significant extent to answer to others for the standard or nature of their actions. Whether in commercial organisations or public services, judgements of the adequacy of actions may be based on comparison with cultural mores (including expectations of ethical conduct), objectives (more or less explicit), legislation and in some cases professional expectations.

Performance evaluation in various forms seems to be an increasing preoccupation in capitalist and socialist economies, commercial and not-for-profit organisations; all appear to be paying increasing attention specifically to the achievement of their own goals and comparisons with others (Pollitt 1986b, Mullen 1985). Many people are employed to collect, process and communicate performance data about small or larger parts of organisations - for example, audit, work study, inspectorates of various sorts. Perhaps human expectations in the developed nations about the extent to which nature and the physical environment can be controlled, and desires to shape our own lives in and outside work, have increased with time. It is in such a broad context that we will be examining the expectations of health services held by their customers, employees and policy makers, individually and collectively.

1.5.3 So how well do organisations do what they are supposed to do?

It seems impossible to answer this question without posing many more questions. At various points in this thesis and with particular reference to the NHS, we will consider:

- Can organisational goals and objectives readily be identified?
- How far are they shared by different occupational and interest groups within and outside the organisation?
- Who makes the decisions about performance evaluation?
- What sorts of performance measures and measurement processes could be used to assess attainment of these goals and objectives?

- What sorts of measures and processes are actually used, and why?

- To what effect? If organisations are not doing what they are supposed to do very well, how could changing the way that performance is evaluated improve the performance itself?

Later in this chapter we will note the role which a particular way at looking at organisations - from a systems perspective - will play in seeking answers to these questions. First we will look briefly at some desirable features of performance measures.

1.5.4 What makes a good measure?

The adequacy of most organisational activity is of interest to someone, be they owners, beneficiaries, victims or custodians. Their interest may centre on products or outputs from the organisation, its longer-term or indirect impact, structural characteristics or the processes occurring within it. The sort of data which they require in order to make their assessment will depend on the nature of their interest, and the ease with which such data can be obtained, i.e. measurements can be made, will vary accordingly. It may not be possible to measure the feature of interest directly; many indicators of performance are proxy measures used in conjunction with assumptions about interrelationships (correlations or causation) in the system.

The key to obtaining useful answers to questions about performance, is to ask the 'right' questions - relevant to the enquirer's objectives. For example, the dimensions of performance which we as consumers are interested in are often different from those which the producers of goods, services or information - rightly or wrongly - choose to inform us about. Furthermore, those dimensions may not be the most or only relevant ones to the objectives of the organisation under scrutiny; they may have been chosen because data collection was cheap, or for more dubious reasons. In its 'raw' state, data can only fairly be judged in terms of 'technical' qualities such as its accuracy and validity. Once the purpose of seeking and providing information about performance has been established, it is easier to assess the value of available data, whether it is accurate and valid enough for us, and the need for alternative or additional measures. Choosing statistical tests, sampling methods and so on depends very much upon the information which you hope to obtain from the process. Knowing this is an essential first step in any evaluation process.

Later chapters will explore the role of models in performance evaluation and improvement. The following considerations about the nature and quality of data for assesssment also apply to data used in model building.

The data

Measurement is a first step in assessment and much modelling, where 'reality' is represented in terms of selected attributes. Measurement is defined by Warner et al (1984, p. 36) as ' ... assigning a number to a system according to a rule, in such a way that the number represents the quantity of an attribute of the system.' Consideration of the following factors can enhance the value of data collected about performance or our appreciation of its shortcomings. They can also be used to test the value of models, as Chapter 2 will illustrate.

- Timeliness - the immediacy and frequency with which data become available as information. Particularly for the exercise of control, data need to be collected at appropriate time intervals (to detect trends or cycles) and analysed rapidly enough for action to be taken which will have the desired effect.

- Capacity to reflect dynamic characteristics - organisational performance is essentially dynamic and it is essential to be able to measure change. The direction and pace of change are indicated by the level or state of key variables measured after the elapse of appropriate intervals of time. The adequacy of change in terms of progress towards objectives may be difficult to assess and control, unless the results of such measurement can be compared with intermediate targets or a desired trend.

- Sensitivity is assessed in terms of the intervals at which data are collected, and the callibration of any measures - are these small enough to detect the levels of change we want to observe? The risk of missing a change, or dismissing it as an error, artefact or due to chance, must be minimised.

- Specificity is problematic in many areas of performance evaluation - with how much certainty can we say that A, or a particular aspect of A, causes B? How far can we progress beyond noting correlations? (Long and Harrison 1985 p. 38, Donabedian 1980.)

- Validity and reliability - two essential characteristics for assessing the extent to which we are measuring what we want to measure. Assume that objectives have been identified towards which progress can be assessed by measuring the value of certain attributes. To test validity we ask whether our measure correlates highly enough for our purposes with the attribute of interest to be regarded as a good predictor of that attribute; or are the measures sufficiently well constructed to be seen with confidence to represent the content of the attribute? The reliability of a measure is related to the extent to which it will produce the same result when used by different people (or the same person on another occasion), other things being equal. (Warner et al, op cit., Long and Harrison 1985.)

- Ambiguity - lack of clarity and explicitness - can seriously damage the confidence placed in a measure, and can be one factor affecting the accuracy of data collection or recording. This can be a particular problem with scaled or subjective measures, less so for frequency counts.

- The accuracy with which measurements are made and data recorded is not simply a function of the carefulness of the individuals involved. Factors such as the clarity of instructions, explanation and understanding of the significance and purpose of data collection, convenience and complexity of collection procedures, and the presence of distractions can all contribute to the quality of raw data. Staff handling data need to have the necessary skills for any coding or manipulation, as well as an interest in their tasks conducive to accuracy. These factors may well be amenable to management intervention and should be considered when data collection is planned. The data user needs to have some idea of the level of accuracy which is likely to obtain, and to be able to assess whether it meets their needs.

- Availability and cost-effectiveness (which are often related) deserve some consideration; data collection, analysis, storage and retrieval costs can be considerable. Performance monitoring often uses data collected for other purposes, and therefore does not incur much additional cost. However, the users must be sure that it meets their needs, and know of the standards and methods of collection in order to assess its validity and accuracy. Where data is currently unavailable, the costs of obtaining it (were it feasible) compared with the benefits obtained, may preclude its collection. The non-availability of good data may reflect vested interests rather than technical impossibility (and see, for example, Gray in Long and Harrison op cit. p.39, regarding data about self-care). The problems and opportunities posed by computerised management information systems are often an extension of these general considerations, but on a grander scale.

- Can artefact effects be eliminated - such as the 'Hawthorne effect' (the subject of investigation being changed unintentionally by the process of investigation), or changing the way we look at and classify things, or adjust our expectations of what it is worth looking for during the evaluation? (Long and Harrison, op cit p. 39; Roethlisberger and Dickson 1939.)

Dimensions of performance

Much of the criticism of health service performance evaluation (and that of other organisations) relates to the particular aspect of performance upon which the evaluative judgement is based. Examples which we have already noted are the comparative lack of measures of outcomes of health care, or the quality of care processes. A number of

dimensions of NHS performance will be considered in Chapter 3, and the problems of measuring performance along different dimensions will be a recurring theme.

Here we will just note that searching for an objectively 'right' dimension on which to judge aspects of health care, upon which everyone concerned agrees, would often be fruitless. Patients are generally more concerned about effectiveness, while managers may place efficiency higher on the agenda when choosing what aspects of performance best serve their interests. However, if the purpose of the evaluation and the interests of the evaluator are clear, relatively more or less appropriate dimensions may be identified.

1.6 TAKING A SYSTEMS APPROACH TO PERFORMANCE EVALUATION IN THE NHS AND ITS PROBLEMS

1.6.1 Some features of systems approaches

It is the common features of any systems approach which commend it for studying health services. These include concepts such as holism, emergence and hierarchy, (valuable in describing the NHS with its complex subsystems and hierarchical arrangements). The attention which many systems approaches pay to communication and control, information flows, feedback, is central to an understanding of management, stability and change. However, as we shall see, there are aspects of health service performance which are difficult to analyse without help from other disciplines concerned with organisations and social reality. This applies particularly to issues where concern for change reflects conflicting values.

The role of systems approaches in this research is described in detail in Chapter 2. Here we will note two sorts of approach to human activities. There are writers on organisations whose work may note their systemic properties (Weberian bureaucracy as a 'closed' system, for example; see Morgan, 1986), but whose main focus is on other organisational features and activities. They have provided useful analyses in areas of interest such as the role and nature of strategic planning. The main group of writers (featured in Chapter 2) seem to turn first to systems concepts and models when opening their analytical toolkit. They may not be saying 'organisations are systems', but that it is often useful to look for systemic factors when studying organisations. It is the latter approach which is taken in this thesis. But the functionalism which underlies many of these approaches has sometimes driven the search for models outside the systems mainstream, as many changes to health service performance have a political dimension (both large and small 'p') and are characterised by conflict rather than consensus. Thus the scope of this research embraces the 'four P's' of performance, planning, policy and politics.

A definition of 'system' may be helpful here, and that used by the Open University (Mayon-White and Morris, 1983) has served well. Paraphrasing, a system is a complex assembly of interrelated parts, connected together in an organised way, which 'does something' and is of interest to someone. The system and its parts are changed when a part enters or leaves. Although we may often consider complex assemblies such as car engines as inherently systemic (having the properties of systems) and rarely bring personal interpretations to bear on what the ignition or cooling systems may comprise, the systems approaches applied here generally allow that alternative boundaries could be drawn. Ecological systems in nature clearly demonstrate the importance of systemic principles for survival of species, but it would not be argued that they have been deliberately created with such principles in mind. When we see sets of human activities as systems we are labelling intellectual constructs,

dynamic and individual interpretations. These interpretations are often assumed to be common, shared by many people and treated as if they exist in their own right, but when they are described they may reveal conflicting perceptions. One continuum on which systems approaches can be differentiated is that ranging from 'hard' (particularly suited to clearly-defined situations where an optimum solution may reasonably be sought), to 'soft', where a problem or opportunity is messy, has to be seen from many perspectives, and does not lend itself to a 'best' or right answer. The differing conceptions of social reality which underly the schools of systems thought are discussed in Chapter 2.

1.6.2 Why take a systems approach?

The approach taken in this research has been to complement the analytical, diagnostic and modelling powers of a 'systems approach' (a heterogeneous discipline) with insights gained from theoretical and applied work in other disciplines concerned with organisations and populations. At various points these have included organisation theories per se, evaluation studies, health economics, studies of management and planning, policy analysis and political science, epidemiology and demography. Research and practice from these disciplines is contributing to the development of health care and health services worldwide. But while many of these disciplines embrace systemic considerations implicitly, they may not have the explicit commitment to holism in their practical applications, be suited both to large and small scale projects, or to changing organisational activities as well as understanding them. The multidisciplinary nature of systems thinking and practice should enable it to explore areas which may be intractable to single disciplines; but as we will see, the power of systems approaches can be enhanced by accepting insights from a wide range of sources.

The decision to concentrate on exploring the potential for systems applications to health service performance evaluation problems, was taken after considering the scope offered by several other disciplines. A study of the role and effectiveness of 'program evaluation' or evaluation studies, more common in the USA than in British social programmes, could have identified some potentially useful approaches for managers and decision-makers. But while the role of such evaluation studies per se in the UK health care system could have formed the focus for this research, to be judged in its own terms, this would have largely ignored the political context, and confined the study to micro level, individual programmes. Using the Australian Health Care Facility Accreditation Program as an example, Lloyd (1988, op cit) concludes that in comparison with the unrealistically-rational and unitary assumptions of the 'goal attainment' model used in conventional program evaluation, only a systems approach can provide insights to why a service or program is more or less successful. Taking the environment, inputs, processes and outputs into account, such systemic insights can enhance the value of the Accreditation Program per se, and develop more searching explorations of evaluation in general.

Another approach could have concentrated on economic aspects of performance, in the light of the increasing importance of accountants and auditors in the NHS and the extension of health economics to embrace 'quality of life' as well as value for money measures (see, for example, Birch and Maynard 1986). Developments in health service management accounting (see Burgess and Watkins, 1987) and analyses of the political and structural role of accounting (Hopwood and Tomkins, 1984) could also have contributed to a study which went beyond 'technical' aspects of efficiency to consider the wider policy context. Nonetheless, an economic focus would have imposed constraints on the dimensions of performance which, as the context outlined in the previous section illustrated, were giving rise to concern. However, consideration of economic factors can be included within a systems approach; for example, utility theory or cost-benefit and cost-effectiveness analysis may be valuable when selecting an action to improve performance.

Most of the work cited in later chapters will reflect either explicit acceptance of the value of systems ideas, or indifference to them in the context of interest. However, several writers have explicitly rejected 'systems approaches' in otherwise-relevant studies, and we should note the explanations for some of these 'negative' as well as positive references. In the case of Floyd (1984), who advocates a 'cybernetic approach' to local government planning, the explanation for the rejection of the 'systems approach to planning' seems to lie primarily in the subjective or ambiguous nature of the term 'systems approach'. He cites 1970s writers on planning whose work he rightly criticises for its vagueness, denial of conflict and diversity of interests, assumptions of perfect rationality in society and pursuit of optimal solutions to complex and value-laden problems. These proponents of rational comprehensive planning (a subject which we will meet briefly in Chapter 4), while they may have once reflected values at the 'hard' end of the continuum mentioned above, are used unfairly to condemn systems thinking. This is ironic in that Floyd includes within his wide-ranging and more favoured 'cybernetic' school not only those (Beer, Ashby) whom we include as cyberneticians - an important group of systems thinkers - in Chapter 2 and beyond, but also some regarded by many in the systems field today as mainstream (if not always popular) systems thinkers (von Bertalanffy, Vickers, Forrester, Emery and Trist).

Yates too (1986) tends to identify 'systems theories' with 'rational actor' theories about decision-making, and systems analysis and operational research, in his review of theories relevant to performance monitoring for hospitals. These have positive points - flexibility in conceptualising problem situations, for example - but they may be outweighed by undue presumptions of rationality particularly in the use which people make of information. More appreciated by Yates was the work on theories of disasters and systems failures developed by the Open University Systems Group in the late 1970s, which he draws upon in his pragmatic approach to the effective use of routinely-collected data in performance monitoring. Moving towards the 'softer' end of the systems continuum, Thompson (1975,

1977) reiterates his view of the value of open socio-technical systems ideas, and Vickers' concept of 'appreciative systems' in understanding health policy-making and planning.

In his critique of Thompson, Klein (1977) makes the point - which remains valid - that a portfolio of systems (and other) approaches is likely to be required in order to understand complex organisational and policy processes. Jackson and others (Jackson 1984, Jackson and Keys 1987) propose a contingency approach to the design of evaluation systems which recognises that organisation theory, social policy and systems thinking interpret organisational effectiveness in different ways. As evaluation 'problem-contexts' also vary, a framework is being developed through which appropriate models can be chosen upon which to develop evaluation systems. We will meet this framework again in Chapter 2 in the context of choosing systems approaches for a variety of NHS evaluation problems.

The work of the various writers mentioned in this sub-section, and that of some of those to whom they in turn have referred, is drawn upon at a number of points in this thesis. Here we will note that although (like any writer) I have preferences for and aversions to some sorts of explanations of social structures and processes, like Yates and Klein I feel that the need for 'success' of the NHS merits an initial openness to a wide range of explanatory tools and theories. In cases of conflict and power struggles, systemic analysis may provide only partial help. We will return to this matter in later chapters.

1.6.3 The choice of a systems approach confirmed

Many of the issues in the NHS performance debate reflect the desire to treat complex questions about policy making, the management of resources and the application of professional skills (in the light of assumptions about causal relationships) as if they were amenable to a right, optimal answer. One aim of this research is to clarify in the NHS context when this may be appropriate. Our concern with performance evaluation and its contribution to the attainment of organisational (health service) goals, fits well with a 'rational, unitary, goal-seeking (RUGS) view of organizations' (Paton et al 1985, p. 30). This view characterises many systems approaches, especially at the 'hard' end of the spectrum - a reason for criticism in the eyes of some writers and analysts, as we will see in Chapter 2. Other systems practitioners may not see a RUGS view as problematic - like many economists, managers, politicians, and customers, they will readily be able to identify objectives which members of the organisation should pursue to help the organisation achieve 'its' (or perhaps its owners') overriding goals. These objectives will be quantifiable, and undisputed. It will be assumed that causal relationships are well enough understood for the appropriate intervention to be made to rectify any shortcomings. Some of the models applied in the analysis of performance-related topics in Chapters 4 to 7 are based on such assumptions - and will therefore be used with care.

Developments in thinking about these areas of activity from 'outside' systems will be considered from time to time, providing alternatives to the 'RUGS' view which help to explain some of the idiosyncratic aspects of policy making, planning, decision making, management and control in organisations. While a convincing case can be made that health services are more than usually complex organisations (and the British NHS scores high on dimensions of complexity such as size and interdependence), they are not alone in presenting 'problems' and these approaches have shed light on the structure and behaviour of all sorts of organisations.

So has the case for choosing a 'systems approach' been proven? Whether one has a disinterested or an instrumental reason for seeking to understand the operation and performance of an organisation, it is likely that at least some of the unexplained aspects will be characterised by ambiguity, multiple interpretations of objectives and tasks, interconnectedness and uncertainty - about the present as well as the future - arising both from within the organisation and from its environment.

These unexplained aspects may well present themselves as 'messy problems' of decision making (choosing objectives and ways to meet them) or control (ensuring organisational objectives are met), requiring management or policy action. (See for example Ackoff 1974, Watson and Watson 1986). Organisational and individual objectives may well be multiple and conflicting; information and communication channels may be inadequate for the exercise of control. It may be hard to see 'what the problem is', where it begins and ends. As later chapters will illustrate, systems concepts, models and techniques can and have helped managers, planners and policy makers in all sorts of organisations to combine different perspectives, place workable boundaries around messy problems, and cope with conflicting objectives. If this research can provide some viable suggestions for such applications in the NHS - to date, there seem to have been relatively few relating to performance monitoring, evaluation and control - it will have achieved <u>its</u> goals. It is to those goals, and the routes towards them, which we now turn.

1.7 AIMS OF THE RESEARCH AND DESCRIPTION OF THESIS

1.7.1 Aims

This chapter has indicated a need for a systematic study of the ways in which the NHS monitors its performance (or is subject to external appraisal) and acts in the light of the information obtained. To fulfill that need, the aims of this research are to:

- identify the key aims and objectives of the British National Health Service (NHS) as a whole, and those of its major parts, including objectives held outside the service for it by interested groups;

- analyse the formal means of assessing the attainment of these aims and objectives, and ways that actions are chosen in the light of such assessments;

- evaluate the contribution of assessment processes, and the ensuing actions, to the attainment of objectives;

- in the light of this evaluation, make suggestions for change or further research;

- test the contribution that systems approaches can make to the analysis of health service performance.

1.7.2 Objectives and description of thesis

Several more specific objectives have contributed to the achievement of these broad aims, and the research has included five kinds of activity. First, attempts have been made in Chapters 1 and 3 to clarify aspects of the objectives of the NHS, including:

- objectives set for the health service when it was founded;

- policy objectives set by central government, for implementation by health authorities locally;

- 'indigenous' objectives held for the whole or parts of the NHS by its employees;

- objectives that people in the environment or wider system of the health service (as users, taxpayers, health authority members and commentators) hold individually or collectively for the NHS.

Second, throughout the thesis is a search for useful approaches to understanding complex organisational structure, behaviour and impacts in the work of writers on systems introduced in Chapter 2. Approaches have been sought which, in particular, could be applied in the analysis of the organisation in its wider (political, social and economic) environment, exploring stability and change, power, management and control.

To test the contribution of systems approaches, they are applied to a selection of 'performance-related topics' outlined in the next subsection, following a procedure designed to incorporate assessment of their strengths and weaknesses in different contexts. This assessment commences in Chapter 2 where the approaches are described, and continues from Chapter 4 through Chapter 7, as systems methodologies and models are applied in studies of four topics drawing on interview and questionnaire data and secondary material.

Fourth, systems ideas are applied to understand and describe how the NHS pursues its objectives, i.e.:

- **the formal processes by which 'official' policy objectives are set for the NHS;**
- **formal processes by which such objectives are interpreted and quantified and performance at various levels is monitored and evaluated;**
- **formal processes for intervention and control to change organisational performance, over the short or longer term.**
- **the role played by quantitative and qualitative models in these processes.**

Chapter 8 reflects on the value of the chosen systems models and methodologies for understanding the relative success of the various approaches to performance evaluation which have been studied. The potential value of these systems approaches to assist those involved in choosing, designing or implementing performance evaluation mechanisms is also considered.

1.7.3 The selection of case study topics

NHS performance is of interest to many stakeholder groups. It would be easy to adopt a managerialist stance and look primarily for ways to help managers achieve their individual performance review objectives. Equally, one could focus on the interests of central government politicians or their civil servants - likely to be more simplistic and transitory as career advancement often demands rapid results and short stays in the Department of Health. The dimensions which are of most concern to patients are the ones which are hardest to measure - quality, dignity and outcomes of care. They are probably also the hardest to improve consistently.

Systems approaches have traditionally been applied in the service of managers. Their conscious application in the service of the community is a comparatively recent phenomenon. In this research efforts will be made constantly to be aware of the interests served by the subjects under investigation and by any suggested improvements. An early desire to use systems approaches to prove to politicians that their short-term concerns were not good for the NHS, has gradually been tempered by a recognition of the distinct roles of the stakeholder groups involved. Thus a general awareness of the political domain occupied by the health service will influence the conclusions which can be drawn about scope for improving NHS performance evaluation in some rational and egalitarian way. Nonetheless, efforts have been made to reflect the concerns and interests of 'grassroots' patients and staff in the selection of issues for detailed attention.

This has been done first and foremost by the translation of a number of colloquial questions of the sort expressed during the 'NHS crisis' of recent years by concerned observers (including patients and journalists), into eight key research questions. These are linked to eight performance-related topics, four of which are the focus of the modelling described in Chapters 4 to 8. The detail of these topics, and sources of data about them, are described in the next chapter. This is a relatively subjective way of narrowing down a vast and complex area into more manageable 'chunks' for analysis. Nonetheless these topics still represent sizeable challenges to the lone researcher, and this is reflected in the level of detail of the analysis. In order to capture the richness of the subject area, rigour has inevitably been traded for breadth - which has encompassed many poorly understood phenomena. Measures of validity and reliability are therefore scarce and this fairly novel modelling approach has involved subjective choices of measures.

In the final chapter, lessons from the analysis of the four topics initially selected will be drawn in relation to:

- the potential improvements to the area of performance evaluation concerned;
- the particular models applied; and
- the overall approach.

Some implications of such lessons for the analysis of the four remaining topics, and application of alternative systems models (should the opportunity arise for further analyses to take place), will be noted.

This chapter ends with a table introducing the eight performance-related topics, and the colloquial and research questions which they 'represent'. Then, in Chapter 2, the way that they have been analysed is described in detail.

Table 1.4. Eight colloquial and research questions, linked to performance-related topics.

KEY RESEARCH QUESTION	PERFORMANCE-RELATED TOPIC	COLLOQUIAL QUESTION
How are models used in policy making and implementation?	1. Making and implementing strategic plans.	One problem with the NHS is that you never seem to know what's round the next corner - and things are always tangled up together
What are the perceived purposes of the annual review system, and has it got a part to play in organisational learning?	2. Controlling performance through structure and process.	Whose interests do the annual performance review systems serve - just a route for top-down imposition of contraints?
What tools can we use to analyse hierarchies of needs, relationships between structures, processes and outcomes?	3. Improving the quality of care.	It seems to be a long way from "improving the nation's health" to "prescribing x. for Mrs Y". How can a mass health service meet individual needs?
Has the role of quantitative measures changed towards measuring quality and outcomes, and how will this affect attainment of NHS objectives?	4. Assessing performance through outcomes of care.	What use are performance indicators if they don't tell you how many people get better - aren't they just a political weapon?
How can the NHS plan and manage change in a complex and uncertain environment?	5. Planning for uncertainty and complexity.	It's always happening - someone in the government gets a bright idea and imposes it on the NHS with no idea what effect it will have, as if they didn't care
How are priorities for NHS care ranked centrally and locally?	6. Politics of health.	Maybe the NHS can't ever treat everyone for all their ills, but care seems to be rationed by a lottery
In the case of poor performance, do we understand cause and effect, and can we control change?	7. Reducing waiting lists and times.	No-one seems to know what to do to improve the service the NHS provides, regardless of how much money is spent on it
How are NHS goals and objectives set, their interactions analysed, and progress monitored over the long term?	8. Planning for health.	Are political, short term expediencies the driving force behind the objectives of the NHS?

CHAPTER 2. SYSTEMS APPROACHES TO UNDERSTANDING COMPLEX ORGANISATIONS.

2.1 INTRODUCTION - THE SCOPE OF CHAPTER 2.

This chapter expands on the brief introduction to 'systems' and 'systems approaches' in Section 1.6 of Chapter 1. We noted there that some important writers on organisations are sceptical of systems ideas generally, or have identified their limitations in the field which concerns them. Other writers, however, appear content to straddle discipline boundaries, and are described as systems, decision, management or organisation theorists, if they are labelled at all. Chapter 2 aims to demonstrate the nature and value of systems approaches in describing, understanding and intervening in complex organisations such as health services. However, these approaches may not always be appropriate when dealing with highly value-laden, political and conflict-ridden problems. Equally, other disciplines can provide essential material for understanding complex areas of organisational activity such as planning, and provided underlying assumptions are recognised, systems does not need to re-invent the wheel. These complementary ideas from other disciplines will be introduced when appropriate. Of special interest in both chapters has been recent writings (from the mid 1970s to date), those with an empirical basis, and with a health care focus. The final chapter assesses the merits of applying systems approaches to the topics in this research.

The aims and objectives of the research were set out in Section 1.7 of Chapter 1, and the means used to achieve them is explained in this chapter. The research objectives suggested a range of data collection approaches, and while a systems approach has been taken at the analysis stage, social science provided most of the basic tools for data collection. The types and sources of data used, are described in Section 2.2. Some systems concepts and approaches, and criteria for choosing which approach to apply in a particular problem context, are introduced in Sections 2.3-2.5; and finally the basis of the methodological approach is outlined.

2.2 OUTLINE OF THE RESEARCH METHODOLOGY.

2.2.1 The collection and use of primary and secondary data.

Questionnaires to regional health authorities.

Three questionnaires have been administered as part of the primary data collection. Each of these questionnaire surveys involved small pilot studies, with comments being sought from contacts at the DHSS or regions with knowledge of the review arrangements. The first two, under the heading 'Survey of performance evaluation in the National Health Service', were sent out in August 1986. Two sets of questionnaires were sent out to each of the 14 English Regional Health Authorities. One questionnaire was sent to Regional General Managers (RGMs), and concerned the content of regional and district annual reviews; the second, subtitled 'The regional role in quality assurance', was to quality assurance officers or, where no such post had been established, another officer whom the King's Fund Quality Assurance Project had identified as willing to be contacted on this subject, and sought information about the role the region played vis-a-vis quality assurance activity in its districts.

The main aim of both of these questionnaires was to gain an impression of trends in the content of regional and district reviews, especially the role played to date of quality assurance and performance indicators, as a basis for the selection of a small number of regions and districts for more in-depth data collection. The results are discussed mainly in Chapters 5 and 6. Performance indicators and quality assurance had already been identified as representing respectively 'hard' and 'soft' aspects of performance evaluation, the predominance of quantitative input and activity data in the performance indicators being a source of strong criticism since their introduction in 1983.

The RGMs were asked to enclose copies of agendas, and action plans resulting from review meetings, plus other local literature if available; details of strategic plans were also sought and several sent copies. Respondents to the QA questionnaire were asked to send copies of any relevant policy documents, or information about their availability. (Relatively little such literature proved to be available at that time). Copies of these questionnaires and covering letters are at Appendix A. Subsequent analysis of the content of annual review action plans (described in detail in Chapter 5) contributed to the selection of the eight performance-related topics identified in Section 1.7 of Chapter 1.

During 1987 the review system changed and this suggested the desirability of a second questionnaire survey to regional general managers who had responded positively to the 1986 one. The 1988 Annual Review Questionnaire (at Appendix B.) was sent out in March /

April and sought the views of respondents about the role of the evolving review process in changing or monitoring their performance and that of their districts. The responses indicated a maturing of the review system, suggesting that a formal review process could continue to play a part in securing both effective performance evaluation and public accountability even if the health service were to become more decentralised. The full results of this survey are presented in Chapter 5.

One of the aims of the 1986 questionnaire to regional general managers and quality assurance managers was to obtain information on which to base the selection of regions and districts for the case studies. Respondents were asked to indicate their willingness to be contacted again as possible case study sites, and most gave positive replies. The overall response rate to each questionnaire was over 80%.

In order to choose case study regions from the information obtained, a simple scoring system was devised (see scoring sheet in Appendix A.). A high score was desirable and arose from accessibility and evidence of interesting activity. As well as some practical considerations, this scoring combined:

- noting some basic characteristics of regions for the purpose of comparability;
- weighting for availability of strategic planning information;
- weighting for features of particular research interest to the author.

The scoring sheet was also used to log some basic data about each region and its population, most of which information did not contribute to the weighting. The maximum score obtainable was 111 points, and the two regions with the highest scores were Trent with 83 points (covering a large area from Leicestershire to South Yorkshire) and North West Thames (from the Inner London boroughs of Hammersmith and Westminster, through Brent and Barnet to Bedfordshire and Hertfordshire) with 80 points. These regions, and two districts in each of them, became the focus for the case studies.

<u>Case studies.</u>

In other circumstances, the subject matter for this research could lend itself to action research, participant observation or even some form of experimental approach. However, I was interested in investigating a range of performance evaluation activities, and looking at the impact of 'environmental' factors (where the environment may be inside or outside the formal NHS boundary, depending on the system in view), as well as internal organisational structures. These methods would be more suited to a single, micro-level study. It was therefore decided to undertake a number of case studies in as much depth as time and resources allowed, which would provide illustrative examples of a range of issues of concern and interesting practice. These would contribute material which could be used for

the proposed systems modelling activity, to be discussed where possible with those from whom it was obtained, and supplemented by data from secondary sources. Ideally, data would be collected with a view to its suitability for the systems modelling stage. Inevitably this was an iterative process as initially it was not clear which 'models' would be used; this was to depend on the nature of the topic of interest and of the performance evaluation 'problems' coming to light.

Thus issues emerging from the early primary data and secondary material (described below) contributed to the selection of case studies for more detailed analysis. These provided key source material for the performance-related topics, the vehicles for the modelling and analysis described in Chapters 4 to 7. The use of NHS administrative boundaries (region, district and unit) for the case studies was a means of concentrating primary data collection in areas that were identified as potentially fruitful, accessible, and with officers willing to provide time and data. Locations were avoided where other research was already in progress which would influence the response to this project (being in 'competition' or taking up too much staff time, for example).

From the 1986 questionnaires, the aim was to select two dissimilar districts in each region, so that each contained some features typical of a wider range of districts (although it would not be possible to claim they were a statistically representative sample). Having established a 'contact' within each of the highest scoring regions (Trent and North West Thames) two districts from each region were tentatively selected on the basis of some key characteristics, local knowledge and the region's views on their 'suitability'. (This was sought because it was felt that the region's views could prejudice access for data collection or discussion of, for example, region-district communications, so acquiescence would be advantageous). Other factors considered in identifying likely districts included:

- RAWP 'gaining' or 'losing' status;
- whether predominantly urban or rural;
- the presence of a teaching hospital;
- relatively north or south of England; and
- the presence in the district of some identifiable activity or approach related to reviewing local performance, especially if related to implementing plans or quality of service.

Within each region, one inner city or predominantly urban district and one with a more dispersed population, and only one with a teaching hospital, were chosen.

Initially data were collected about performance evaluation generally, not intentionally connected to the specific performance-related topics. The basic pattern for collection of data through interviews was first to establish contact with an appropriate and willing officer in each region or district. (This was initiated through names supplied on the 1986 questionnaire to regional general managers, and names suggested by them in the districts selected). Other staff were contacted or interviewed as the need arose. The majority of the data were collected at or through interviews following a pattern of:

- writing to or telephoning the potential interviewee to introduce the project and suggest a meeting;
- making an appointment with them or a suggested colleague;
- sending a list of questions or topics of interest for the interview, which was generally used to structure the discussion (and transcription of notes).

Such a list proved very valuable - as a means of making the interview seem businesslike and therefore not a waste of the officer's valuable time; enabling them to prepare or assemble documents (either specifically requested, such as strategic plans or committee papers, or at their own instigation); progressing through the interview at a suitable pace, and enabling a last minute change of interviewee to be accommodated relatively productively. The lists were not found to be restrictive; open ended questions were often included, as were opportunities for 'off the record' comments, supplementary questions and usually an 'any other matters of concern?' question at the end of the list.

A range of additional data were gathered about the selected authorities, including items from journals and newspapers. Meetings of district health authorities were attended (and papers studied), as well as some other meetings and seminars or presentations; it was not, however, possible to attend any Regional Health Authority meetings. When visiting sites in the case study districts or regional offices, subjective perceptions of relevant aspects such as the condition of the buildings, quality of information available to staff and visitors, and the 'atmosphere' of the place were noted. As the collection of case study material progressed, analysis in terms of systems models began to take shape (and led to further discussion with some of those involved).

Specific performance-related activities were studied in depth in the two regions and four districts selected as case study locations. These activities were chosen to illustrate trends in NHS performance evaluation and their possible contribution to an improved/ more effective collection of tools or processes in the light of shortcomings observed in the literature and in practice. The case studies included a considerable amount of contact with the (then) Department of Health and Social Security, and at the other end of the NHS hierarchy, some unit-based activity. This range of observation enabled pictures to be drawn from macro as well as micro level. Horizontal and vertical interconnections and

dependencies between 'organisations' within the NHS, are crucial to its functioning, and (as with the review system itself) topics were chosen which could illustrate the role of these links, as well as wider environmental influences. Some of the case studies benefit from an exploration of past as well as present activity and future developments; occasionally too links are made with practices in health services abroad. Although this places heavy demands on the researcher, consideration of such a range is vital to understanding the success or failure of performance evaluation processes within a hierarchical system in affecting performance.

The locations of case studies and the opportunities which they presented for particular study are described briefly here; Table 2.1 summarises some key features. The aspects chosen from the case study locations for detailed exploration, and the application of systems models, will be described as the thesis progresses. While each topic/ model combination draws on the experience of more than one location (and secondary data), in most cases one location is analysed in special depth.

Table 2.1 Key features of case study regions and districts

REGION/ DISTRICT	MAINLY URBAN/ RURAL	CATCH-MENT POP,1986	RAWP LOSING/ GAINING	TEACHING DISTRICT
N.W. Thames RHA	both	3500000	losing	
Riverside DHA	urban	287500	losing	yes
S.Bedford-shire DHA	both	275000	gaining	no
Trent RHA	both	4603000	gaining	
Sheffield DHA	urban	540500	static	yes
S.Derby-shire DHA	both	500000	slight gain	no

Each of the regions and districts provided examples of interest for the performance-related topics, many reflecting issues of common concern in the NHS. For example, North West Thames RHA was seeking to redistribute its decreasing resource allocation internally from inner city to 'shire' districts in line with population movements, and also had a number of quality assurance and waiting list initiatives. Riverside, one of its larger districts with high levels of deprivation, had experimented with locality planning and scenario planning in

conjunction with a major cost-cutting reorganisation of acute services. South Bedfordshire was waiting for money to be released from districts like Riverside in order that priority services could be developed, and had many senior management changes during the research period. Quality assurance developments were the main focus there.

Trent had strong interests in improving strategic planning, 'corporate' performance and quality of care/ 'customer satisfaction'. Of the districts studied, Sheffield's approach to health promotion and preventive medicine - involving links with the local authority, and the WHO 'Healthy Cities' project - was of particular interest; problems were being experienced in deciding how to set targets, monitor progress and secure resources. One of Southern Derbyshire's two acute units (Derbyshire Royal Infirmary) had developed a rigorous internal 'annual review process' in a unit-wide context. Close links were maintained between all six units to identify potential knock-on effects of developments in each, and in the Community unit, organisational development techniques were widely used. S. Derbyshire, where the catchment population was set to increase, was due to gain revenue slightly under RAWP, while Sheffield's growth would be minimal and population was projected to fall. Each district would have several large capital developments during the strategic period.

A number of Branches and Divisions of the Department of Health and Social Security (DHSS until July 1988, then DoH), provided information which would have been difficult or impossible to obtain from published sources. Initial approaches to the DHSS were largely dependent on personal contacts but official clearance was required before any formal interviews took place. Through interviews, some internal papers and circulars information was obtained about:

- the conduct of the annual review process;
- central in-year monitoring of regional and district performance;
- policy development and modelling (mostly operational research);
- the production of guidelines for short and long term planning, and links between planning and reviews.

As well as interviews with civil servants, information about centre: periphery relations was obtained from the Interregional Secretariat for RGMs and RHA chairs.

Constraints on obtaining sensitive data (or on its use once obtained) were anticipated and proved less of a problem at the central (DHSS) level than, on occasion, at district level. Data collection was affected by factors which may be attributable to the nature of the subject area in a number of ways. Firstly, many of the activities of interest were in some way innovatory

- such as the introduction of quality assurance - or were linked to recent organisational changes, or policy pressures from outside. They were therefore accompanied by: personnel changes, individual and collective insecurity, practical problems related to staff and financial resources, and unexpected changes of plans affecting individuals and activities of interest to the author. In addition, there was a climate of change accompanying the extension of general management to units and the introduction of performance related pay/ individual performance review during the research period. This provided opportunities for career movements affecting both the younger officers involved in planning and performance review, and older ones affected by early retirement. Important and useful contacts in five out of the seven case study locations (including the DHSS) made substantial job changes during the research period! This affected continuity to a greater or lesser extent depending on the stage of data collection reached; inevitably, their successors tended to be more preoccupied with their new jobs, sometimes less knowledgeable, or I was reluctant to impose on them.

A second inherent but unanticipated complication was the apparent change of pace of health service politics following the general election in June 1987, and the replacement of Norman Fowler by John Moore as Secretary of State for Social Services. (He was succeeded by Kenneth Clarke when the DHSS was split in 1988.) From the later part of 1987 the NHS was scarcely out of the headlines as the Opposition parties, trade unions, doctors and other pressure groups sought to publicise the effects of inadequate resources. With the establishment of the Prime Minister's review of the NHS, and statements from the Secretary of State exhorting health authorities to greater efficiency, extra attention was given to views and activities at the centre. At the same time, civil service contacts became busier than ever so 'inside information' on some developments took extra time to obtain.

Changes in the annual review system in 1987, the postponed issue of the strategic planning guidelines for the next planning period because of the NHS review, and last minute delays in issuing the 1989-91 planning guidance to health authorities all concentrated the author's attention perhaps excessively on DHSS level activity. Several developments which were being followed with interest and anticipation became stalled in their tracks for a variety of reasons. The effect of such delays on the research was the 'bunching' of the completion of the case studies, and the 1988 annual review questionnaire. As I was dependent on the goodwill of actors in the field, I had to curtail some of the case studies with less data than had been hoped.

Secondary data.

A wide range of secondary sources are available to health service researchers. The NHS collects vast amounts of quantitative data about its structure and activity, much of which is 'publicly' available although not necessarily accessible. Newspapers, radio and television have been playing a growing role in both creating and reflecting public perceptions of NHS performance. 'Propaganda' about NHS performance emanates from the Government and Opposition (and other interested parties ranging from private medical companies to local and national campaigning and pressure groups). Circulars from the DHSS/ DoH to the NHS may not normally be seen as propaganda, but there has been a growing tendency for them to be accompanied by press releases and glossy brochures proclaiming improvements to the NHS.

The columns of Hansard, especially ministers' answers, can provide data of interest not only in its own right but also in its interpretation. Some official information is becoming harder to obtain, because of the timing, form or cost of publications (as with, for example, the Registrar General's Decennial supplement on Occupational Mortality for 1979-83, London: HMSO 1986, which for the first time comprised only microfiche for many of its tables and did not include its customary detailed commentary on the data). Such changes can reduce publicity for and awareness of official information, as well as reducing its ease of use.

Qualitative data and data from local sources about health service provision and health needs, is rather more patchy in its availability and quality. Nonetheless, combined with strategic and operational plans this is a growing source of secondary material about the NHS.

Useful comparative material about parallel areas to those under study (e.g. strategic planning) is available especially in the form of case studies reported in conference papers. Direct comparisons are often hard to make because of different social or political contexts - for example, health care systems abroad, similar sized non-health care organisations, or the private medical sector.

Detailed reports of larger health service research projects are often published or made available by their authors, and in a few instances 'information exchanges' such as the King's Fund Quality Assurance Information Service provide information for researchers and practitioners alike. This project has drawn heavily on current research in the NHS and academic institutions to extend the empirical ground covered. For example, contact was established and maintained with a number of researchers involved in (mostly larger) relevant projects about patient satisfaction surveys, and NHS management. Details of conferences and workshops relevant to the topic areas were noted and several were attended. Information was collected about the organising bodies (often pressure groups as

well as professional or training organisations), about their intended audiences and aims, and when possible what the outcomes of the event had been.

As well as journals and books, a number of other UK theses and dissertations were read. Literature explicitly concerning systems approaches to performance evaluation and the NHS (or other health services) is sparse, although a number of operational research applications in planning and operational management were noted.

2.2.2 Observations on the primary data collection.

Although the three questionnaires (two in 1986, the third in 1988) were simple, and targetted to a small group of RGMs or senior regional health authority staff, they were the source of very important material and were closely linked to the case studies and analysis.

A concentration of effort on one large scale and detailed questionnaire (or one to each NHS tier) was discounted as unlikely to obtain sufficiently sensitive information or elicit a high response (as potential recipients tended to be under pressure and to receive quite a few questionnaires). Non-response to a questionnaire on performance evaluation seemed unlikely to be random. However, questionnaires were seen as an economical way to collect a range of basic data most not in much depth, although the 1988 annual review questionnaire posed some more subjective and open-ended questions. Regional general managers were approached in the first instance as it was felt they should have a wide knowledge of the areas of interest (notably annual reviews, planning and performance indicators). RGMs also provided a point of contact with both districts and the DHSS, and should easily be able to delegate the questionnaire and any further contact to a colleague.

The questionnaire data also provided a counter-balance to the case studies. Case study research has a number of limitations, and although in this research they are felt to have been outweighed by advantages, nonetheless they should be recognised in assessing its results. In addition, problems arose which may not have done given a different combination of subject area, case study location and researcher.

Efforts were made to collect a minimum set of data on each case study location. Behind each case study was the research interest in establishing what measures of performance had been chosen, how, and how they related to the identification and pursuit of objectives. However, for reasons mentioned below, it was not possible to obtain information of equal levels of detail in each case study. Inevitably, large amounts of data have been given only cursory attention while, as analysis progressed, more detail would occasionally have been helpful.

Case studies have been criticised for collecting largely qualitative data and producing subjective analysis, not testable against a control group (Veney and Kaluzny 1984, Chapter 5). Qualitative data should not be dismissed as 'second class'. Its validity may be amenable to assessment and in most of the case studies here quantitative data could also have been collected, and indeed would need to be to evaluate any action arising from the initial analysis. Problems arising from interaction between the observer or fact of observation, and the situation being observed, may be low in a very small scale project such as this; the researchers' presence was in the main only apparent to the person being interviewed, most of whom did not convey the impression that being asked questions about their work or work place was unusual! However, Hammersley and Atkinson (1983, Chapter 5) describe interviews as 'participant observation for both parties', providing data which must be interpreted against the social context in which it was obtained, in order to assess its validity. Efforts were made in some instances to check information obtained or inferences drawn from one data source (or set of sources) against another, for example: comparing explanations given by several interviewees in one organisation (or the same person over a period of time) or looking for congruence between documentary and questionnaire data and interview data. (The questionnaires also contained some questions designed to check validity). The subject of validation of qualitative models is addressed later in this chapter.

The problem of selective perception is difficult to quantify but may have influenced the quality of data collected, i.e. the self-fulfilling prophecy - looking for what one expects to find. However, this could have operated with any methodology. A major limitation to the explanatory power of the approach taken here is the absence of ways to 'prove' causation. As noted in Chapter 1, assessing the impact of health care on health is difficult enough; any claim to have established the causal relationship between performance evaluation activity and performance through a handful of case studies, simple questionnaires and systems models would be foolish. But health policy makers seem to make assumptions about causation, and here we explore the validity of those assumptions and the actions taken in the light of them. Logical interpretation of data from these case studies may at least identify some specific areas of concern for further research.

Conclusion.

This summary of the processes of data collection will be expanded upon in the later analytical chapters. We move now to an introduction to the systems concepts, approaches and methodologies which have informed the analysis of the data; the analytical process itself is described in the final section in this chapter.

2.3 WHAT IS 'A SYSTEMS APPROACH'?

2.3.1 The nature of systems thinking

The terms 'systems thinking' or ideas and 'systems approaches' are not synonymous; they differentiate between theory and the practices which theory informs. Systems thinking indicates that systemic characteristics are sought and valued. The role of theory in this thesis is to provide insights to help describe and explain some problematic aspects of organisational structure and behaviour revealed by analysis of real world situations. Several common features of systems thinking which give it a characteristic 'weltanschauung' or world view, distinct from natural and social sciences, are discussed in this section.

The use of systems ideas varies with the chosen approach, which implies a set of assumptions about reality - especially social reality. We can define a systems 'methodology' as a defined set of analytical steps appropriate to these assumptions. In turn, we can find a range of 'models' being used as diagnostic or design tools, within and appropriate to the assumptions of different 'approaches', which are broader thought-development aids and can be used in a wide range of ways. Techniques, tools, methods - all may be employed in the pursuit of understanding, and may or may not be unique to systems approaches.

The most obvious distinguishing characteristic of systems thinking is that conscious effort is made to look for 'systems' in the situation of interest, or to study its problematic features systemically. This means focussing at least initially on 'wholes' rather than parts or particular aspects. However, while we may look for things which we identify as systems, we are putting a label on an intellectual construct which helps us order the complexities around us, and which may be unique to our individual perceptions. The system which we identify as of interest may not exist in the real world. (See, for example, Checkland, 1981, and Woodburn, 1988).

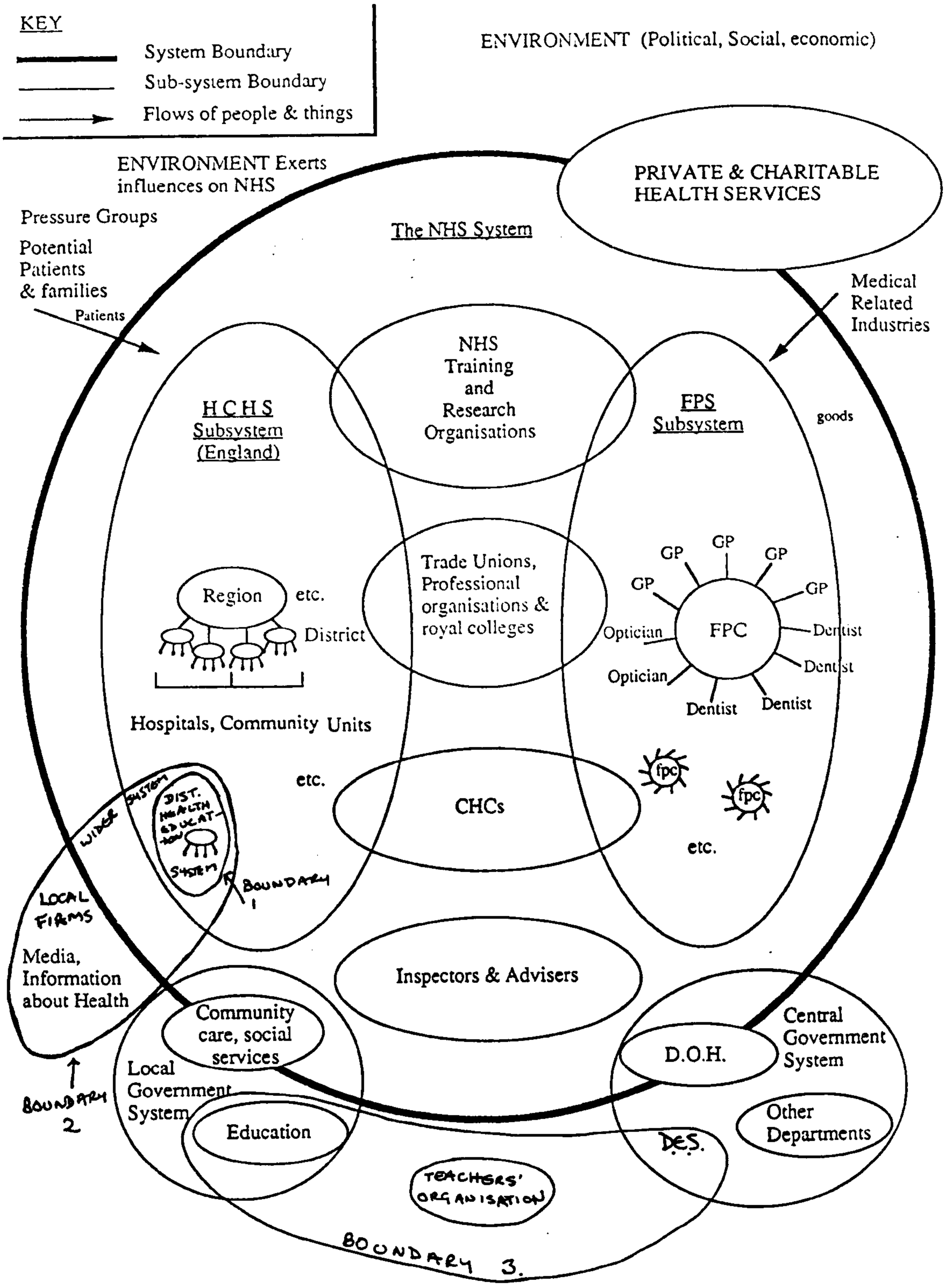
To recall the definition of system given in Section 1.6.1, a system is a complex assembly of interrelated parts, connected together in an organised way; it does something of interest; the parts are affected by being in the system and the behaviour of the system is changed when a part enters or leaves. The emergence of qualitatively different characteristics from the combination of components organised into systems, is called 'synergy'.

Once we have established the presence of a system, or systems, of interest, we can describe some of their features. To give some basic definitions, 'the system' comprises interrelated components - elements (which do not need to be subdivided for the purposes of the study) and subsystems - inside the system boundary. Sub-systems have systemic properties too - interconnectedness, doing something of interest and so on; they may be of interest in their own right. At a higher level of analysis, the system may be a sub-system of a larger system, and at a lower level the sub-systems may be seen as systems themselves, in their own environments. It is sometimes helpful, when describing systems, to identify a 'wider system' between the system and its environment. The environment comprises elements outside the boundary which affect the system - providing tangible inputs (which may be transformed by the system) and receiving outputs, and exerting non-material influences. By and large, the system cannot control the environment although it may seek to influence it. It needs to be constantly 'alert' to the environment's demands and changes, adaptation to which may be essential to the system's survival. The material things and information that flow within the system and to and from the environment often form the focus of analysis.

If seeing aspects of our world as systems is an intellectual activity - the system we describe may well not exist as such in reality, and other people's descriptions of ostensibly the 'same' system may look quite different - a key element in successful system description is the location of the boundary. This dividing line between a system and its environment should be placed where it is most helpful for the purpose of the analysis, and not necessarily be expected to coincide with real-world physical or organisational boundaries. It may span hierarchical levels, which may or may not be significant to the analysis; and elements may be part of more than one system (depicted in overlapping areas). If a wider picture is needed, this may mean analysing or acting at a different hierarchical level, or drawing a wider boundary to include a different set of elements.

For example, the diagram at Figure 2.1 is a variant on Figure 1.4, introduced in Chapter 1 in the context of indicating some important elements in the environment of the NHS which influenced its overall operations. A health education officer in a district health authority developing a new health promotion project may, if they were thinking in systems terms, draw a boundary which included all of the district's facilities in the system, and place the mass media and local employers, which would be involved in the project, in a wider system. The boundaries around the system and wider system are illustrated as Boundary 1 and 2 on Figure 2.1. A teachers' organisation seeking to influence policy and obtain resources for health education in schools may find Boundary 3 more relevant to their purposes, incorporating the Department of Education and Science and local education authorities within the system they are trying to influence; the NHS would be in the environment.

Figure 2.1 The NHS as a system, plus alternative boundaries.



Systems approaches aim to be holistic, rather than reductionist. Systems thinkers and practitioners do not expect to find full explanations for phenomena by looking at the properties and behaviour of lower levels of organisation. This does not preclude attention to detail, employing the methods of natural science to parts of the system or particular characteristics, but serves to remind the analyst of the distinctive nature of the system of interest, possible effects of interrelatedness between components, subsystems, and between the system and its environment.

The holism of systems thinking is reflected in its range of focus. Unlike other scientific disciplines the concepts embraced by a systems approach can be applied at any level in the hierarchy where systems may be found, from atoms to the universe. Systems concepts provide a set of tools which can be applied to the world as described by the other disciplines; systems thinking provides a framework within which specialised disciplines can complement each other to tackle complex real-world problems. It is often argued that systems is a technological rather than scientific discipline (Rosenhead 1987, Jackson 1987, Checkland 1981). The distinction is rather blurred. Systems concepts can be used to contribute to the rigorous search for understanding and establishment of scientific laws. They can also underpin methodologies which are applied to bring about practical changes to problem situations - a more technological approach. This thesis has a technological rather than scientific orientation.

The relative (and in many cases, increasing) complexity of much of their subject material has given some disciplines, particularly biology, engineering and the social sciences, implicitly systemic characteristics (Beishon 1980, Morgan 1986). The principles of biologist von Bertalanffy's General Systems Theory (GST), developed from the 1920s, drew together their systemic threads into an explicit systems theory. While being based initially on biological metaphor, GST has brought thinkers from various disciplines together who seek to identify and explain characteristics which are common to systems of all types, by the application of a 'metatheory'. However, while references to 'the systems approach' made in the work of other disciplines often seem to regard GST as the only systems approach, it is only one among a number which share underlying assumptions to a greater or lesser extent. The selection of approaches introduced in Section 2.4 have been applied to the NHS performance-related topics in later chapters or are regarded as potentially applicable in such contexts. They have been selected for their potential suitability for human activity systems in complex organisations; we have not joined the search for a metatheory here.

An important characteristic of many systems approaches is the use of modelling - 'the representation of a real world structure or process in a different medium' (Warner et al., 1984, p.19). While some systems approaches may be primarily theoretical, they share with

more applied approaches a tendency to use models to represent aspects of reality, sometimes as Weberian 'ideal types' or to simplify the description of complex or partially understood systems. The applied approaches use models - conceptual, mathematical, sometimes physical - to explore alternative outcomes of system behaviour, to represent different views of the system, or an abstraction of its actual or potential characteristics for comparison with 'reality'. The value of a model as an aid to decision making will depend on the validity of applying inferences from it to the real world. Its adequacy as an aid to new or greater understanding can be distinguished from its accuracy as a predictor of reality; in many instances models are used to reduce rather than eliminate uncertainty, as they cannot in any event be fully verified as representations of 'reality'.

2.3.2 'Hard' and 'Soft' - systems, problems and approaches

A distinction is often found between 'hard' and 'soft' approaches to, or qualities of, organisational problems or challenges. The use of these adjectives to describe problems and searches for solutions is almost colloquial and is not confined to academic systems literature. Many systems practitioners are trained, and committed, to use analytical tools and skills which are unambiguously located in the mainstream 'hard' (e.g. conventional systems engineering or operational research) or 'soft' (e.g. Checkland's Soft Systems Methodology) areas of expertise. A proportion of them would maintain that their approach is 'the best', regardless of the context. However, the complementarity of approaches and the importance of selecting an appropriate one in the light of the problem or opportunity requiring analysis, is now widely acknowledged. At the same time there has been a 'softening' of operational research (OR) in some circles, and a blending of quantitative methods into softer areas of practice, which suggests that if distinctions have to be drawn, a continuum is the most helpful way to represent the hard / soft dimension.

Where systems analysis has been applied to industry in general, traditional techniques of operational research and systems engineering (with their origins in meeting the needs of manufacturing industry and the military) are characterised by a focus on technical systems, problems amenable to optimal solution, quantification and agreement on goals. Checkland (1978, p.22) describes the characteristic way in which all hard systems approaches formulate problems thus: 'there is a desired state, S_1, and a present state, S_0, and alternative ways of getting from S_0 to S_1. Problem-solving, according to this view, consists of defining S_1 and S_0 and selecting the best means of reducing the difference between them.'

In recent years there has been a recognition that problems in human activity systems may not be resolved by the identification of one 'best' answer, not least because there may not be agreement about the nature or existence of 'the problem'. While identifying the optimal means of resolving a technical problem of, say, production scheduling may only have required the use of some 'hard' mathematical techniques from OR or systems engineering,

the implementation of the 'solution' has to take place in a complex human environment including a range of interested parties, probably interfacing with other equally complex parts of the organisation and maybe other organisations too. Issues in the policy context, especially public policy, are even less amenable to optimisation.

Much of the formative work in the development of soft approaches has come from practitioners well versed in hard systems analysis, notably Checkland and Ackoff. Ackoff stresses the need for a new approach to dealing with the systems of interrelated problems he terms'messes' (Ackoff, 1974). Describing the evolution of Checkland's soft systems methodology through recognition of a need for modifications of systems engineering approaches, Jackson and Keys sum up Checkland's distinction between hard and soft approaches:

> Hard systems thinking assumes the world to be systemic and systematically organises the search for an optimal route to known goals. Soft systems thinking transfers the notion of systemicity from the world to the process of inquiry into the world. It helps structure a social process in which different world-views are held up for examination and their implications discussed. The move away from hard systems thinking involves a shift in paradigm - from an optimising approach based on functionalism and positivism to a learning approach based on interpretive social science and phenomenology. (Jackson and Keys, 1987, p. xiii)

That soft systems approaches have moved away from functionalism, and in a 'desirable' direction, is a subject of some debate which will be considered in Sections 2.4 and 2.5. In terms of practical application, systems approaches at the soft end of the continuum are characterised by, first, a search for 'improvement' to complex and interconnected organisational situations (whether problematic, or the realisation of opportunities) which should be feasible and systemically desirable, but not necessarily 'optimal'. Second, there is a recognition that a range of different perceptions of objectives and perspectives will be brought to bear on organisational situations of interest, including that of the analyst. Finally, there is an emphasis on organisational learning.

While hard approaches may involve mathematical or computer models and soft approaches may more commonly use non-quantitative, conceptual models to represent aspects of the situation of concern, these combinations of model and approach are not 'sacrosanct' (Woodburn 1988, p.52). Computer models can help structure debates about human activities or provide ways of experimenting by proxy; the design and implementation of 'hard' computer systems, for example, can be enhanced by the use of conceptual models to identify less predictable aspects.

The hard/soft dimension can also be used to describe the measures and measurement processes involved in assessing the performance of health services. The ongoing debate about the NHS illustrates the limited extent to which supposedly 'value free' quantitative measurement is accepted as appropriate for a complex public service by the various

interested parties, among whom there is disagreement over its objectives. The extent to which any systems approach can make a useful contribution to issues of performance, planning, policy and politics will reflect in part how soft and messy these issues really are - especially in terms of conflicting values. The dominant tradition in health service planning and performance evaluation appears to have been shaped by assumptions of agreement on objectives, unitary interests and knowledge and agreement about cause-effect relationships. These characteristics would indicate a major role for hard systems techniques. This research will assess the validity of such assumptions, and explore the potential for using harder and softer systems models to help describe and understand aspects of health service performance. The potential application of systems methodologies to design changes to NHS organisational structures and behaviour, are also considered. These three aspects - diagnosis (description and analysis), design and consideration of implementation - have been incorporated in the ten-step analytical process (introduced in Section 2.6) which will be the vehicle for this assessment and exploration.

2.3.3 Some further systems terms.

Here we will identify the sorts of uses made by systems thinkers and practitioners of some terms which may have a different meaning than in their everyday use. The 'jargon' peculiar to specific approaches will be introduced in Section 2.4.

Open and closed systems

GST has given systems thinking the concept of 'open systems', existing within and crucially affected by their environment. This may be contrasted with the approach of early writers on organisations and management theory, who, as in the Weberian model of bureaucracy, treated organisations as effectively 'closed systems', not significantly affected by outside factors. While it may occasionally be sufficient or even necessary to see complex systems as closed, or self-contained, the application of systems approaches to human activity systems such as organisations has been characterised by the open systems approach.

Treating human activity systems as 'open' to influences from the environment may be linked to the use of biological or organic metaphors in understanding organisational structure and behaviour, characteristic of the Human Relations, Tavistock and sociotechnical systems studies from the late 30's until almost the present day (Morgan, 1986). Applications of open, sociotechnical approaches in organisational development are described by Michael Beer (1980) and Warmington et. al (1977); and in an operational research context by Dyson (1983).

Biological and organic metaphors have led some writers to criticise the underlying functionalist assumptions of systems thinking. It is argued that in treating organisations in

terms of a harmonious collection of more or less specialised syb-systems working towards common goals (in the organism, survival of the species by multiplication; in the firm, survival through profitability or growth; in the not-for-profit organisation, the prosecution of a socially-useful mission) inherently conflicting interests are denied. Organisations as systems may be coercive, 'solving problems' by the removal of dysfunctional elements (people) rather than responding to their signal of a need for change. I will return to these powerful arguments; nevertheless, the notion of open systems interacting with environments is essential to systems thinking and practice, and can be separated from the 'functionalist' debate and assumption of unitary goals.

Structure, inputs, process, outputs and outcomes

These terms can be used to encapsulate the essence of any system. In the context of studying health care systems, structure usually refers to relatively permanent or slow-to-change configurations of people, equipment and buildings, rules, relationships and roles, channels for coordination and control. Factors shaping this configuration and its influence in turn on the organisation's behaviour and performance have been the focus of much theoretical and empirical research on organisations. Systems approaches tend to treat structure, process and outcome as intrinsically interconnected, although one or another aspect may command attention at a particular time; this will be reflected in the analysis of the performance-related topics in later chapters.

In examining organisational performance and control, attention is often focussed on inputs, and their relationship to processes and outputs. Many measures of performance of the NHS are based on inputs alone because of the comparative ease of measurement; but understanding of their correlation with outputs or outcomes - let alone causal connections - tends to be limited. Yates (1986) carefully justifies the use of input data as indicators of quality of care, on the basis of correlations between low staffing and patient neglect in long-stay hospitals. Yates' recommendations based on his analysis were a form of 'feedforward control', injecting extra resources in order to prevent neglect. 'Feedback control' - waiting to measure output data and then alter inputs - simply prolonged suffering without enhancing understanding of care processes.

Process encapsulates what an organisation 'does', its essential transformations. Like the concept of system itself, 'process' is hierarchical; a process can be broken down into components of finer detail depending on the purpose of the analyst. However, while assessment of process is an important part of the analysis of performance, it may not necessarily be sufficient. Many complex organisational processes are not fully understood, in terms of the way inputs are transformed into outputs and outcomes. In a health care context, the effects of medical procedures may be hard to separate from environmental or genetic factors, and counting processes may be a poor guide to the effects on health

particularly if they are aggregated to give measures of activity such as the numbers of patients discharged from a hospital in a year. These issues are returned to in later chapters, when we we consider the problems of measuring outcomes of health care and health promotion.

A solution to the difficulties of understanding transformation processes is to treat the systems in which they occur as 'black boxes'. Figure 2.2 represents this metaphor; the processes transforming inputs to outputs are opaque, but inputs and outputs can be measured or described.

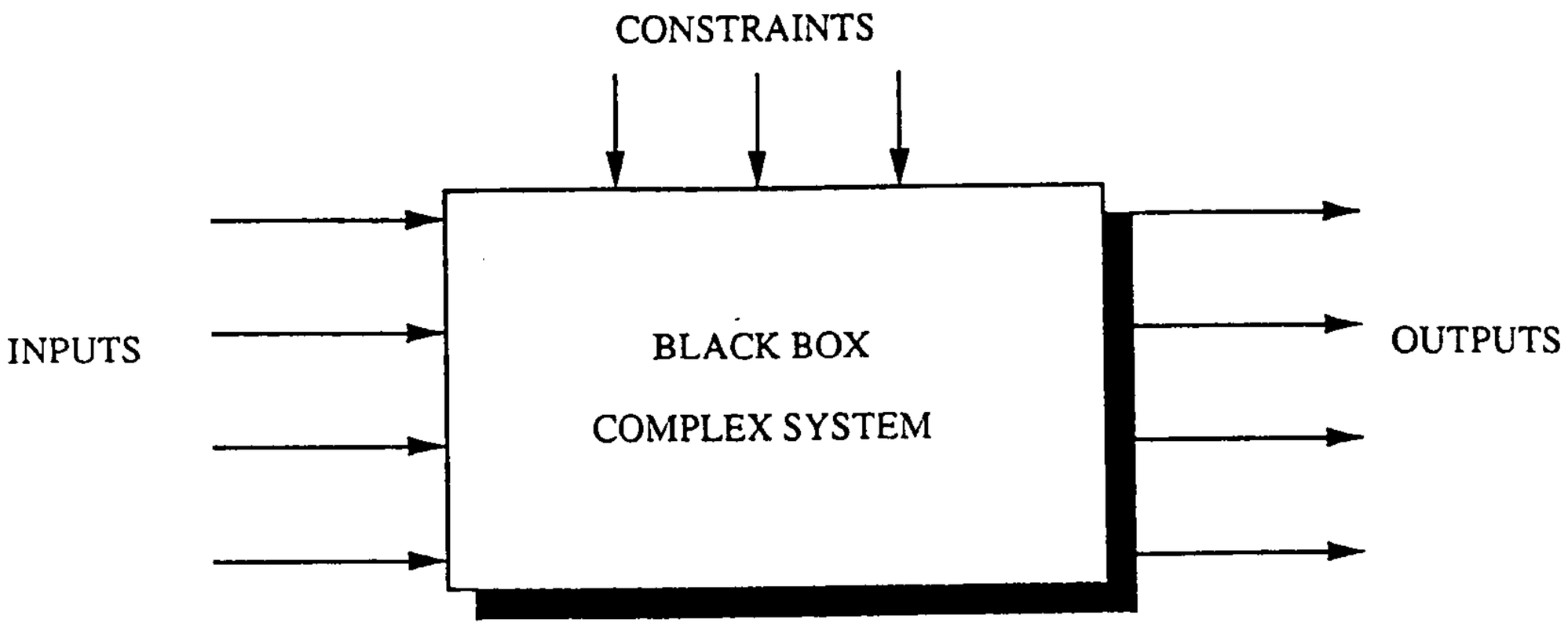


Figure 2.2 Black box representation of a system.

Discussing the NHS performance indicator package, Best (1983) suggests that the 'black box' model provides an appropriate approach to the analysis of health service performance. Even if we have a relatively full understanding of how systems are working, in a management context higher levels often treat lower ones as black boxes, allowing them autonomy provided that the right outputs are produced and intervening by altering the inputs if necessary.

In the case of the NHS, it is argued more effort overall should be made to judge inputs and qualitative aspects of processes in terms of their impact on health outcomes. The distinction between <u>outputs</u> and <u>outcomes</u> tends to be blurred and to vary with writer and context; but in health care systems, the distinction is important and deserving of careful consideration. Best refers to the 'traditional' subdivision of the outputs of the NHS into 'intermediate outputs' (measures of workload or activity levels) and 'final outputs', which 'it is held, relate more closely to the purposes or goals of the service' (ibid., p.66). Whether one treats measures of workload and activity as measures of 'output' or 'process' partly depends on

the purpose of the assessment and where one draws the boundary. There are many different treatments of these system components, and the framework to be adopted in this thesis is illustrated in Figure 2.3.

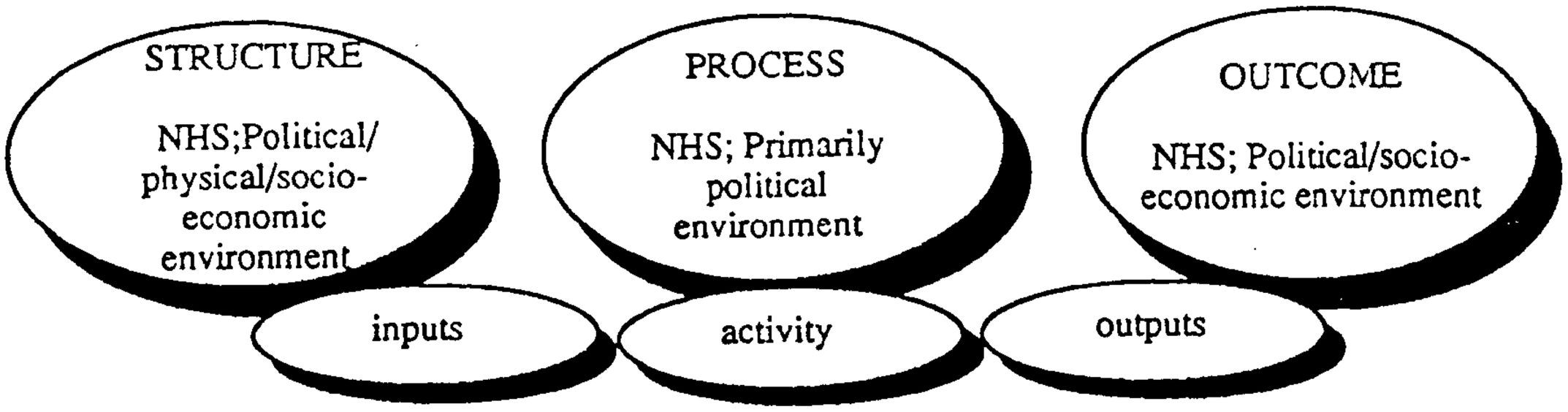


Figure 2.3 Dimensions for performance.

Open and closed loop control

A particularly important set of concepts, where the performance of organisations is concerned, relates to 'open' and 'closed loop' control. Closed loop control incorporates information about inputs and outputs which influences action, as in the implicit use of feedback and feedforward in the work of Yates (1986). 'Open loop control' takes place when inputs to a system are decided upon without the benefit of feedback information. While such information may ultimately become available, it is either unnecessary or undesirable to wait for it before deciding on or adjusting inputs. Health promotion activities are a commonly-used example. We need to stress that the 'open' and 'closed' here refer to the exercise of control in systems; we may well be assuming that systems of interest are open to external influences which are a source of systemic disturbance, necessitating control in the first place. 'Closed systems' on the other hand could operate with open loop control or feedforward control as the absence of disturbances makes the system's behaviour predictable.

Goals, aims, objectives and purposes

Systems may be seen to have goals, aims, objectives and purposes. The use of these terms varies in the literature. In this thesis goals or aims will generally be regarded as longer term, more fundamental to the nature and intended outcomes of the system, while objectives are shorter term targets to be achieved as contributions towards goals. 'Purpose' may be used interchangeably for either.

Adaptation and the maintenance or re-establishment of a stable state (homeostasis) can be seen as one of the goals, even the primary goal, of a system. This may be represented as the struggle for survival; or the maintenance of the status quo, perhaps most often in the interests of those in power. Whether systems, especially man-made and human activity systems, are appropriately characterised as goal-seeking and striving for stability once the preferred state is attained, are areas of debate among systems thinkers and the subject of criticism of systems approaches both from within and outside. We noted above some presumed unitary objectives for firms and not-for-profit organisations which deserve to be examined critically (Holloway and Carter, 1990). But for the purpose of the later examination of the performance of the NHS we will assume that:

- organisations can be said to have 'goals', which may be an emergent property, not solely those of their actors/ members, or even the dominant group;
- 'objectives', contributing to those goals, can provide references for performance assessment. However, they may be hard to identify and not static.
- the interests and values of different groups associated with organisations like the NHS will shape the goals and objectives which they feel the organisation should pursue, and therefore affect the parts groups play in organisational activities - a source of potential conflict as well as harmony.

Hierarchy, emergence, complexity and variety

'Hierarchy', 'emergence' and 'complexity' are widely used systems concepts. We commonly perceive the world around us as hierarchically organised. Our representations of aspects of it in maps, organisation charts, or instructions for example assume that the level of detail or complexity which users need to know or understand will vary, and that they will recognise the level required for their current purpose when seeking information. We cannot hope to understand all aspects of the world around us, but cope with its complexity by trying to understand in appropriate detail those most immediately relevant 'levels', calling on experts or seeking to broaden our understanding by learning when the need arises. However, an appreciation of the qualitative differences which emerge at higher

levels is helpful both in coping with uncertainties which they bring, and in the avoidance of unintended consequences of our actions - an appreciation stressed in systems thinking.

The physical and social world is sometimes likened to a set of nested Russian dolls, where removal of the outer one reveals an inner one, containing a smaller one and so on. This analogy needs to be used with caution, since it suggests that like the dolls, layers in the real world differ only in size or scale. When we are looking for systems, we are often aware of larger systems containing subsystems; depending on our purpose we may treat these simply as irreducible elements or smaller versions of the system of interest. However, like the dolls each layer or subsystem is a 'whole' in its own right. Each level has some properties that make it different in more than scale from the one below, which would not have been predicted simply from knowledge of the characteristics of the layer below. Such differences are termed 'emergent properties', and the attention paid to them by systems thinkers is in contrast to the reductionism of the traditional natural sciences.

'Complexity' is generally understood to refer to the range of behaviours which something exhibits, the interdependencies involved, or its unpredictability. Where our interest is in controlling or manipulating something, a related concept of 'variety' - the number of different states in which something may exist - is also a relevant dimension, especially in the case of cybernetic control. Although we need to treat systems as black boxes in order to cope with everyday life, an issue raised by systems thinking is at what points we need to look inside the black box before we can act with adequate understanding, or effect control.

Although objectives and the tasks which go towards their attainment can be seen as two sides of the same coin (the objective of one person requiring tasks to be undertaken by another), distinguishing between ends and means can be important in understanding organisations (Simon, 1957). If we appreciate that on many occasions our concern is directed towards one or two levels in a many-layered hierarchy, we will recognise the interconnections which join the 'means-ends' relationships we may be exploring, to wider systems. This can alert us to knock-on effects we may trigger by intervening - an appreciation which makes systems approaches especially valuable in the search for performance improvement.

2.4 SOME SYSTEMS APPROACHES TO DESCRIBING, UNDERSTANDING AND INTERVENING

2.4.1 Introduction

This section provides brief introductions to several systems 'schools of thought' and practice of particular relevance to complex, even messy, organisational situations. Much systems thinking and theory derives directly from practice, frequently practice directed at organisational change undertaken as internal or external consultancy projects. Thus systems approaches provide frameworks for describing the features of the system of interest in terms relevant to the analyst's purpose (which will not be the same as their brief, if any, from a client). They may use one or more methodologies, embracing a range of techniques, tools and models, in order better to understand the structure or behaviour of the client organisation. Such analysis may be of wider interest to others in comparable circumstances, may contribute to theoretical generalisations, and may be followed by prescription or intervention logically derived from the outcomes of the description stages. These systems approaches have informed this research. They do not provide a comprehensive resumé of the state of the art, but indicate the intellectual context from which the modelling applications described in later chapters are derived. Hard systems approaches are presented first followed by two softer ones; the final subsection provides a less detailed introduction to some alternative approaches.

2.4.2 The Open University's hard systems approach

We have noted a continuum of systems approaches from 'hard' to 'soft', which can equip us with tools for tackling human situations ranging from clear-cut problems to ill-defined messes. In its systems teaching and research, the UK Open University (OU) has drawn out a set of essential steps especially suited to tackling problem situations at the harder end of the continuum. This hard systems methodology (HSM) continues to be developed, and the stages of the most recent version - a cyclic and iterative methodology for problem-solving and/ or decision making - are set out in Figure 2.4. It will be applied later in this thesis in the analysis of one of the performance-related topics.

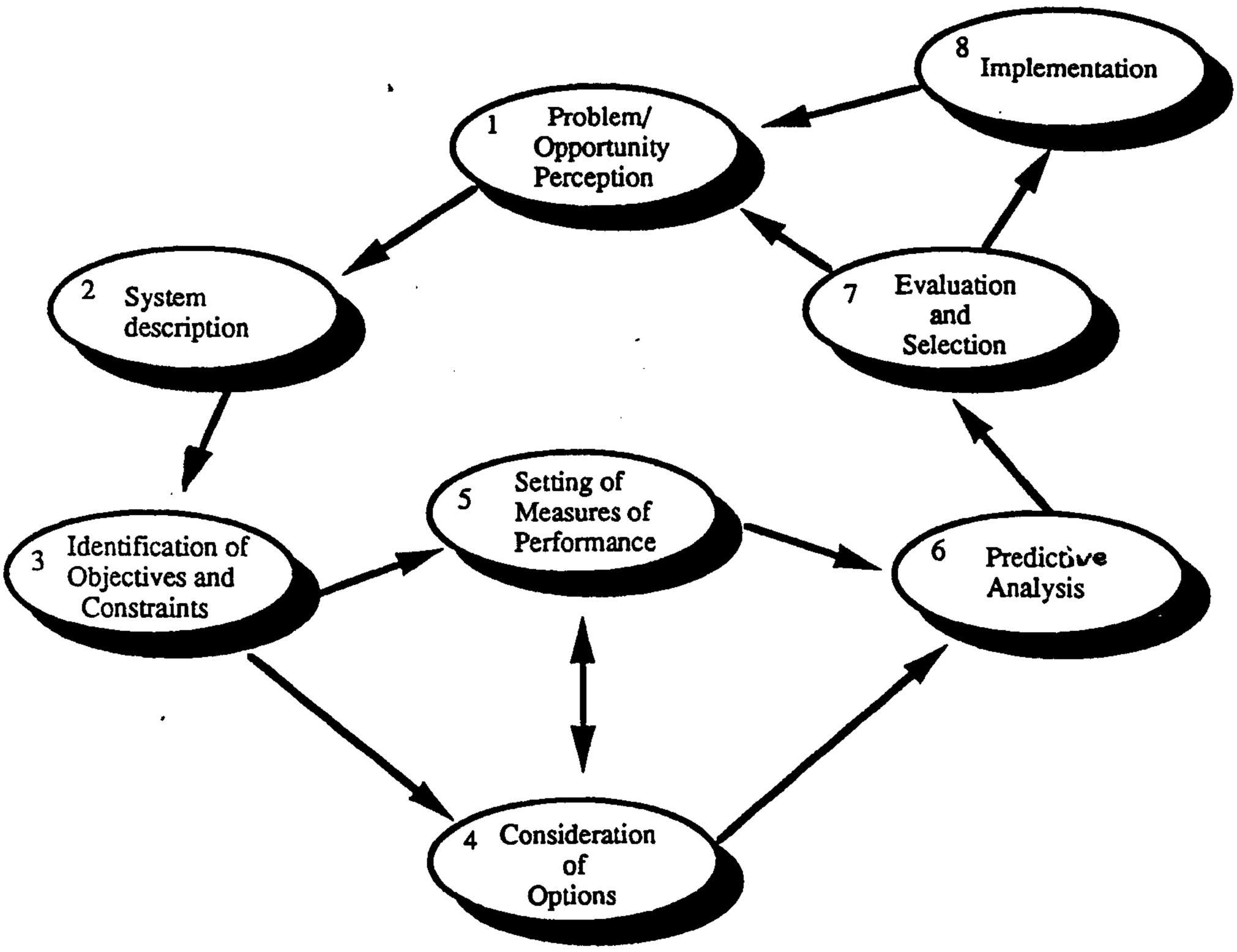


Figure 2.4 The stages of the hard systems methodology.

Although the Open University's approach is sensitive to the presence of conflict and uncertainties with its thorough description stage and mechanisms for alerting users to the possibility of multiple objectives, like other hard systems approaches it is most appropriately applied to straightforward 'problems' rather than 'messes', where:

- there is agreement on objectives;
- constraints from within the system or its environment can be identified with some confidence;
- and options can be explored and evaluated, often quantitatively, so as to provide the client set with alternatives from which to make an informed choice.

At Stage 1 of the HSM, a problem or opportunity is identified by the 'client set' (often a group or organisation, with a set of interests and concerns, rather than one individual client). The methodology is designed for use by analysts in collaboration with the client set, but the analysis is conducted apart from the client. The early form of the methodology emphasised the need for a systematic approach to 'system description' through six steps which ensured that the analyst was aware of the nature of their role in the analysis. Although this prescription is given less emphasis in the current HSM, the process of describing the problem or opportunity in systems terms prompts the analyst to consider whether there is more than one important perspective to be considered, and to seek out ambiguity and conflict. The system description at Stage 2 will identify the main elements of the system and its environment, sub-systems, flows of materials and information, purposes, influences and interrelationships. Diagrams and models can be employed to represent causal relationships, inputs and outputs, the ordering of processes and flows, as appropriate.

Stage 3 may involve the ordering of objectives in an objectives tree, and identification of constraints. The generation of options, or alternative routes to the objectives (Stage 4) may involve creative techniques such as brainstorming; in Stage 5 measures of performance derived directly from the objectives and constraints (usually quantitative) are used to assess the routes. The options thus identified can in due course be evaluated comparatively, in terms of the appropriate measures. These close interconnections and iterations (repeated cycles through parts of the methodology) are represented in Figure 2.4 by the arrows.

Model construction and predictive analysis in Stage 6 can be more or less sophisticated, time consuming and costly. As well as conventional financial, mathematical and simulation modelling tools, the analyst may well need skills from, say, market research and social science, and creativity and imagination. Because the methodology aims to provide the client with a choice from evaluated options, the practitioner is advised to undertake some basic modelling to explore the potential of each of the routes to objectives, conduct a preliminary evaluation involving the client, and then if resources permit, undertake more extensive modelling of the initially preferred options (involving further iteration). The evaluation and selection of options at Stage 7 should involve the measures identified at Stage 5 and the objectives from Stage 3.

The OU's hard systems approach has been carefully developed to reduce the chances of all of its outcomes joining the ranks of un-implemented 'solutions' (Stage 8) through their attention to identifying and ordering objectives, modelling and iterative paths, for example. However, it is still the case that objectives and constraints may prove to be too complex or conflictual to accommodate, acceptable measures of performance may be hard to operationalise; or the 'research' for the system description may miss some important aspects

of organisational politics or individuals' interests and values that influence even ostensibly straightforward practical projects.

Is there then a place for such relatively rational approaches in a world of increasing complexity, uncertainty and messy problems? Approaches with a similar pattern - 'set objectives and standards, identify and select routes to objectives, monitor outcome, modify routes or objectives' - are flourishing in, for example, health service planning and the development of quality assurance programmes. For various reasons which we will explore, such approaches are by no means guaranteed success. However, the more care that is taken in choosing an appropriate approach for each problem or opportunity (and a project may involve several, each deserving separate analysis and methodology choice), the better the prognosis. If hard approaches can incorporate flexibility in their design and use, fuller advantage can be gained from their systematic (and therefore relatively accessible) nature and wide-ranging modelling potential. These considerations are features of the growing field of 'enhanced' or soft OR and decision support systems.

2.4.3 Control theories and models

'Control' is a central concept in systems thinking, relevant to hard and soft approaches alike. It also forms a focus for some of the criticisms of systems approaches. Because its most explicit models fall towards the harder end of the spectrum, it is presented initially in the present 'hard' subsection. However, issues of control are equally pertinent, although perhaps more problematic, in soft approaches. Here we will look at some of the ways in which control is incorporated in systems models and theories, and the underlying assumptions about the nature of human activity systems which these imply.

We are interested in control because of its close links with performance within systems. Not all systems are controlled in the sense used here, where goals and contributory objectives of some sort are recognised and efforts are made to attain them. Many aspects of organisational and social life are relatively indirectly linked to objective-seeking activity; equally, people's actions may involve the pursuit of more than one objective at a time, and trade offs between conflicting objectives (their own, and those of others). Here we are interested in models that represent explicit objective-seeking behaviour, to see how they may help in understanding organisational performance. The basic control loops described below have their origins in engineering and mechanical systems but can be used directly or analogously in the context of human activity systems. The making and enforcement of legislation, practice of management, and peer group pressures common to our everyday experience represent control in human systems.

The simplest control model is an open loop, where an actor sets a goal, and combination of system components are arranged to operate in such a way that (it is hoped) will produce the

desired result. This may be an appropriate model if: the behaviour of the system, and its environment can be accurately predicted and catered for; the timescale of the operation involved is sufficiently long, or the extent to which system or environmental elements can be manipulated is sufficiently limited, to make the opportunity of adjusting in the light of feedback of little value; or the consequences of an error of performance are such that 'right first time' is imperative.

In many circumstances we are dealing with systems where, even if the initial operation is producing or contributing to the desired output, deviations will occur and changes be required. Here we are interested in closed loop control, where information about the output(s) is fed back to a controller (human or otherwise), via a comparator. The comparator reflects the desired output - a temperature setting on a thermostat or quality control standard, for example - and if the comparison indicates a deviation from the desired/ anticipated output, control action is taken to adjust input(s) to the system appropriately. The parts of the system involved in producing the output may be referred to as the forward path, which must have the capacity to produce outputs greater than the target to allow for adequate corrective performance. The behaviour of the system is therefore shaped by the action of the feedback/ comparator/ controller loop. Figure 2.5 shows a simple feedback or closed loop control model.

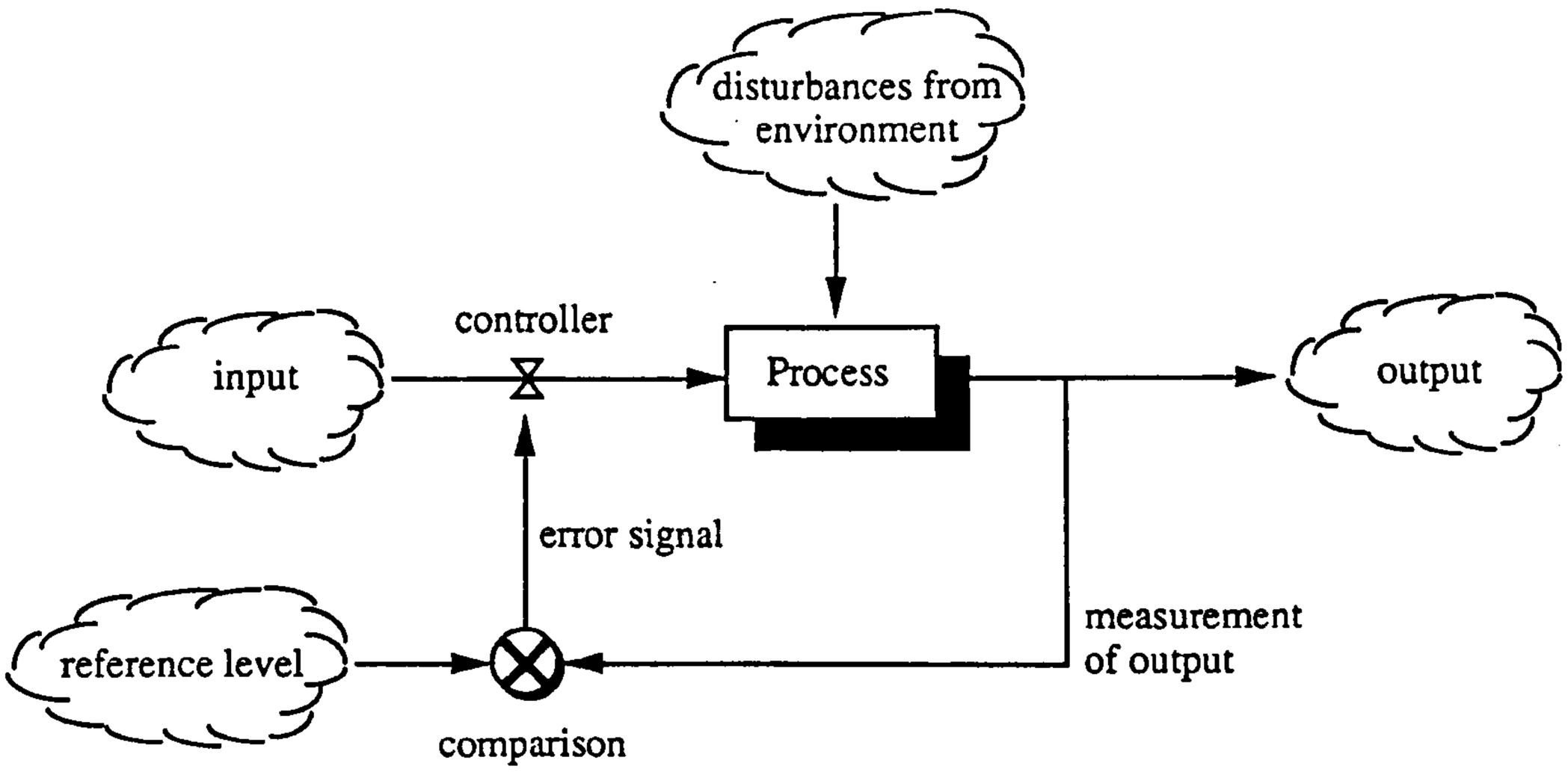


Figure 2.5 Feedback control.

This is a very simplified model; even in ostensibly basic mechanical systems there are likely to be multiple inputs, standards and outputs, a variety of control responses, and 'loops within loops', as one control action operates on another subsystem. Nested control loops

can provide useful simplifications of many human activity systems, as we will see (especially in Chapter 5). However, while control engineers, programmers and others working with relatively predictable and substantially non-human systems may design detailed quantitative representations of their systems of interest, our use of models is more likely to be in terms of analogies, or highly simplified representations to aid understanding of systems behaviour.

As a rule, the aim of feedback control action is to reduce the gap between the desired and measured output. This is 'negative feedback', a meaning somewhat different from its colloquial use. 'Positive feedback' increases the gap, which may grow uncontrollably - as when we instinctively talk louder to be heard in a noisy room, thereby increasing the level of noise still further. However, positive feedback can also be turned to advantage in human activities, becoming a driving force for behaviour with desired side-effects, for example.

'Noise' in a control system represents unwanted distortions or signals affecting the accuracy of the feedback information, which may or may not be apparent and avoidable. The quality of the communication channel carrying feedback information is therefore important, whether it is in the form of electrical components or hospital discharge notes to GPs. Equally, feedback systems may not work because human controllers ignore or disbelieve their signals - maybe because they are messages they do not wish to hear, or because they doubt their value or accuracy. This mistrust may be well-founded (you may know your watch tends to gain time, for example); or it may be one source of systematic distortion contributing to poor performance. As with the hard systems methodology stages of identifying objectives, setting measures of performance and evaluating options, the types of data used in monitoring and reference levels must be compatible.

Monitoring may be continuous or at discrete intervals; in the latter case, the intervals must be appropriate for the rate at which the state of the system may change. Delays in control systems, whether in the forward path's response to control actions or in terms of the timeliness of feedback information, can lead to persistent underattainment of targets, or more or less serious and controllable overshoots. Output may oscillate around its intended level (described as hunting); this may be an inherent and acceptable property of the system, or the oscillations may be large enough to lead to positive feedback and failure, if the control action is applied when the output has already swung back. Such systemic tendencies may be prevented, compensated for or reduced through feedforward control, if the system is sufficiently well understood and predictable. The inputs may be monitored, and if necessary adjusted appropriately (as in the example from the work of Yates in Section 2.3.3). Feedforward control is illustrated in Figure 2.6.

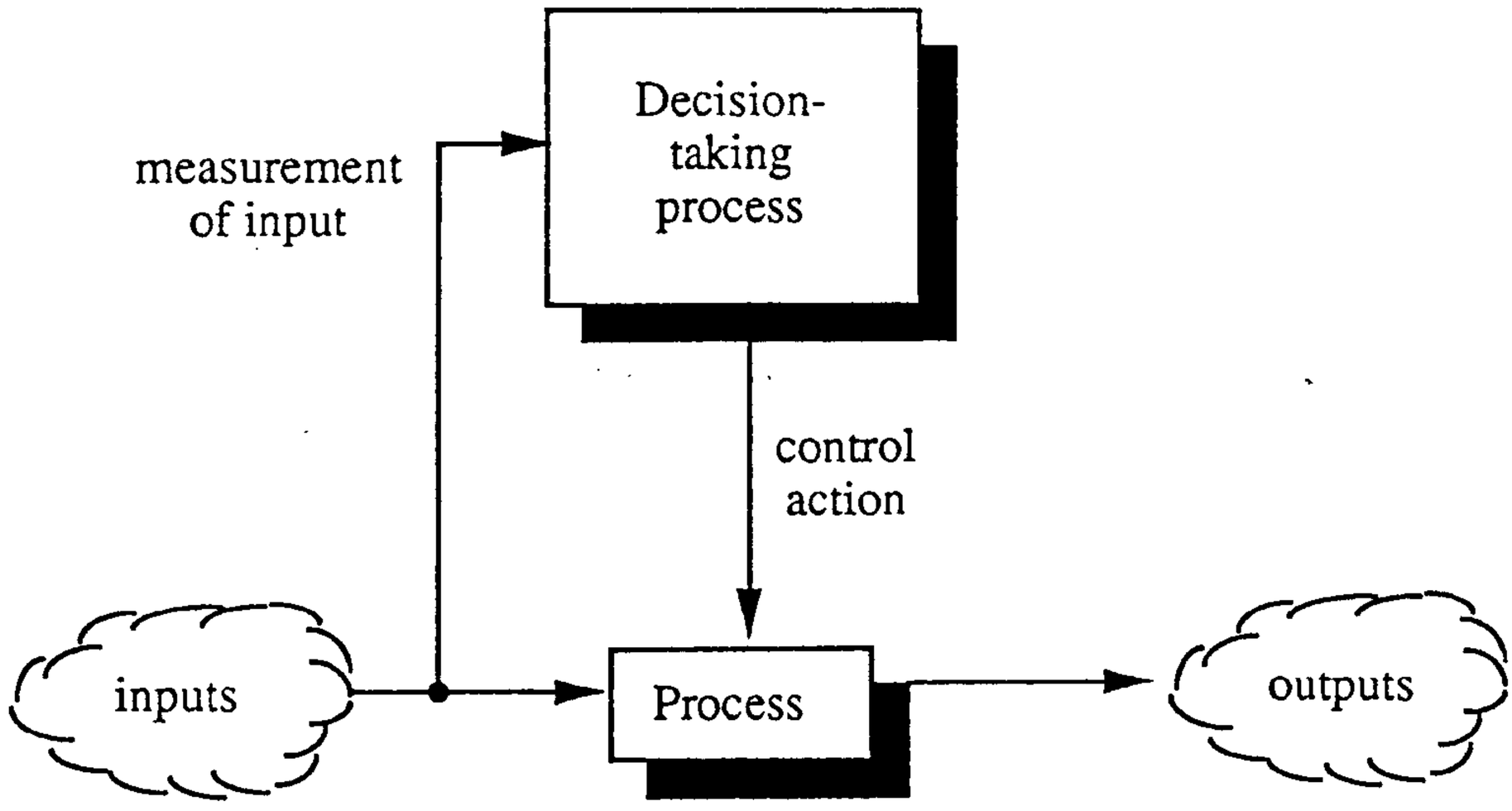


Figure 2.6 Feedforward control.

Much of our everyday behaviour as well as that of complex controlled physical systems is adjusted through combinations of feedforward and feedback control, whether or not we are conscious of it. The use of such control theories and models in organisational and management contexts is no longer unusual (Robinson 1984, Emery 1969, Benssousan et al. 1974, Lord and Hanges 1987, Warner et al 1984). When control models are applied to human activity systems there is always a need to be alert to the possible effects of emergent or unexpected properties resulting in counter-intuitive behaviour. Control requires an appropriate decision making framework, specific control processes and structural capabilities. These combine to make up the cybernetic control framework for 'self control'; we will return to cybernetic control shortly.

Control models assume that it is meaningful to think of system behaviour in terms of the relatively unquestioning pursuit of goals or objectives. Where organic or biological metaphors are applied to organisations (Morgan, 1986) and in cybernetic models, control may be seen as the means by which stability is maintained and restored, and survival secured. Rosenhead and Thunhurst, from the materialist standpoint, criticise '[t]he underlying assumption that stability is a self-evident objective: although the system must adapt to survive, it is important that the key structural relationships within the status quo should be maintained.' 1982, p.118). However, Legey and Fuks respond that while this underlying theme of systems approaches may be evolutionary rather than revolutionary, this does not preclude the pursuit of goals related to changes in society. Stability need not be an assumed goal: rather, gradual change as opposed to complete overthrow of the

established order may be sought by systems thinkers and practitioners. (Legey and Fuks 1988, p.1099).

While control models may provide means towards the constant adaptability and change needed to make organisations like health services 'viable systems', it is still essential to be aware of the implications of the models' underlying assumptions. This is for both ethical and practical reasons; there is little point in trying to design organisational processes using a model which assumes complete predictability when venturing into unknown and uncertain territory. On the other hand, even purpose-built human models make some assumptions and simplifications of reality - this is in the nature of modelling. The aim should be to recognise these limitations and, where appropriate, quantify their likely effects when applying the results.

Cybernetic control of organisations

The extension of feedback models as descriptions of control from machine to human systems falls within a wider paradigm which treats organisations as essentially unitary, pursuing goals of stability and survival. The organisation, like a self-controlling machine, will act to minimise the influences of disturbances from the environment and within, which are dysfunctional. Cybernetic control is essentially self-control and regulation, rather than control through the operation of sanctions or negotiation. The origins of the term are Greek, 'kybernetes' meaning helmsman, and the analogy with the maintenance of a vessel on a charted course using navigation equipment and human judgement is still valid. The application of this analogy to the organisational and social world characterised by differing and often conflicting interests and perceptions is more controversial, whether one adopts a pluralistic or conflictual/ materialist approach.

Following the early work of Wiener (1948), the founding father of cybernetics which he defined as 'the science of effective communication and control in man and the machine', and Ashby (1956), cybernetics has become a fairly mainstream tool in management science (Warner et al, op. cit., Robb 1984). Clemson (1984, p. 21) refers to this science, which links the 'three basic aspects of reality' - matter, energy and information - as 'first order' cybernetics. Traditional cybernetics is inherently functionalist in its emphasis on the operation of goal setting, monitoring, feedback and capacity to take corrective action, for the benefit of the organisation.

Three weaknesses in this model have been explored in recent years. First, the extent to which this conventional model can and does provide the organisation with appropriate behaviour in complex and changing circumstances, is challenged by those who have developed theories of organisational learning. Second, subjectivity, and the effect of the nature of the observer on the resulting observation, needs to be recognised. This focus on relativistic as well as organised complexity is characterised primarily by the work of

Stafford Beer and his supporters, especially Clemson and Espejo. We will consider Beer's work in the following section, and in Chapter 6. Here we will note that this second order cybernetics (sometimes referred to as organisational cybernetics) takes forward the cybernetic laws of requisite variety, feedback and self-organisation, together with the assumption that human systems are characterised by circular rather than linear causality, a view that it can sometimes be useful to treat systems as 'black boxes' in order to cope with their complexity, and holism and emergence.

Finally, traditional cybernetic models for management offer little of value in explaining the roles of the range of stakeholder groups in pluralistic organisations. Management using cybernetic principles denies the possibility of autonomous activity, conflicts and diffusion of power, and as such portrays an unrealistic picture of organisational order (Dermer, 1988). Nor can it adequately describe the realities of control in the inherently-unstable public sector (Dunsire, 1986), although Floyd (1984) argues that Ashby's cybernetics in particular has ann important potential role in local government planning.

In this thesis it will be assumed that in the complex matter of assessing and improving health service performance, there will be occasions when attention to the structure and functioning of control narrowly defined in terms of control loops, will be helpful. The notion of control processes as central to the survival of autonomous 'wholes' adapting to their environments is one of the fundamental tenets of systems thinking (Checkland, 1987, p. 88-9). However, there will be other occasions where even Beer's 'enhanced' cybernetic model will not be adequate in helping us understand conflicts and diagnose messes in health systems. More sophisticated models with different underlying assumptions may be required, especially for successful design and implementation of changes.

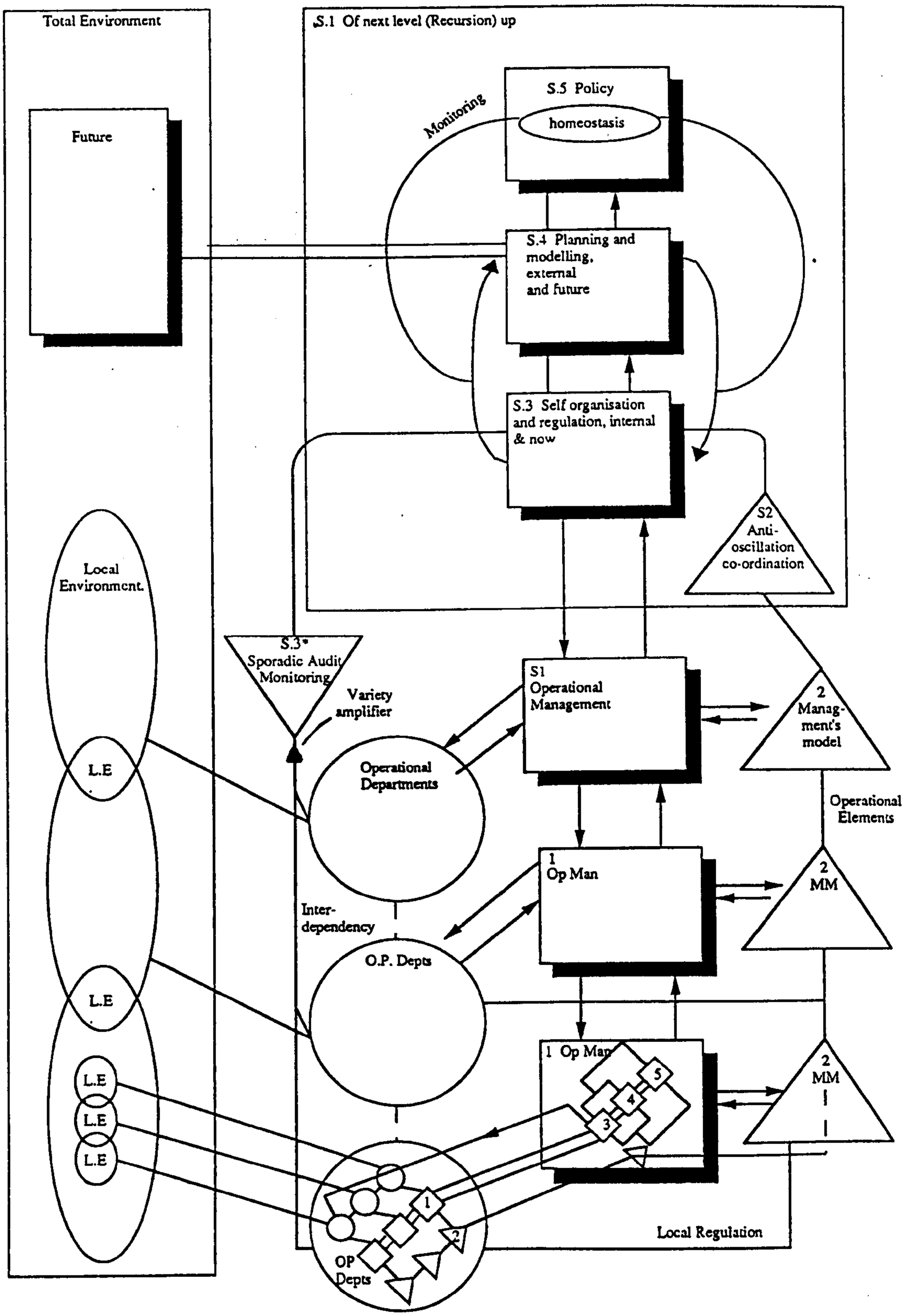
2.4.4 Softer approaches for organisational design and change

Stafford Beer's Viable System Model (VSM)

In our earlier discussion of 'traditional' cybernetic and control models, we noted some characteristics that Beer's VSM shared, and others which are claimed as unique features of his 'second order cybernetics'. In this subsection we will note the main features of the VSM, some applications of the model as an analytical, diagnostic or exploratory tool, and some criticisms of the model or its assumptions.

Key features of the Viable System Model (Beer, 1979, 1981, 1984, 1985) include the view that complex systems are organised to ensure long-term viability; and that such systems should be treated as essentially recursive (or 'nested', the structure of the whole being replicated in each of the parts) best studied in pairs of recursions and described in a way that includes the beginning of the next recursions up and down. The model comprises a five-level description of the essential functions of an 'ideal type' viable system which forms the basis of each recursion. Figure 2.7 is a diagrammatic representation of the model showing the five systems and two recursions. The model is a general one which can be applied to all systems, not just organisations.

Figure 2.7 The Viable System Model (simplified, indicating two levels of recursion).



The five levels or systems in the model have their origins in analogy with functional elements of the human nervous system (the archetypal viable system), although the model itself is derived from cybernetic first principles (Beer, 1979). Their presence, condition or absence can provide diagnostic pointers in an organisation under scrutiny (for example because of concerns about defective performance or undesired levels of instability). Beer rejects a single-measure, optimising approach to organisational performance, seeing goals as the product of compromises between constraints from within and the external environment. He describes instead three levels of achievement (actuality, capability and potentiality); these can be combined into three indices (productivity, latency and performance), which can be quantified and applied to measure performance on a range of dimensions throughout the organisation (Beer, 1981). These we will meet again in Chapter 6. The model itself and many of its features can be quantified (see, for example, Wilson, 1975). The systems comprise:

- System 1, the basic organisational elements which receive inputs to the system and act to produce outputs or effects on the environment (each element being an autonomous viable system itself, but accepting some coordination and control by Systems 2 and 3)

- System 2, a channel for information and coordination/ stabilisation - of the levels in the current recursion and between it and adjacent recursions or VSMs

- System 3, a control system providing closed loop regulation (internal and 'now'), and both routine and sporadic audit (which may be depicted as a separate System '3 star' or 3*)

- System 4, an interface between systems 3 and 5, looking outside the system to the wider environment and concerned with the future, simulating, monitoring and planning, and acting as a filter for information from these activities to Systems 3 and 5

- System 5, the policy making and organisation-designing level, monitoring the other four Systems and the 3:4 interactions.

Thus Systems 1, 2 and 3 operate in a relatively autonomous way, maintaining internal stability and producing the major outputs of the organisation , but Systems 4 and 5 perform its strategic and external intelligence functions. To illustrate the recursive nature of the model, Systems 3, 4 and 5 comprise System 1 of the next recursion 'up', when the whole model is repeated (if appropriate to the context). Inevitably, higher recursions may treat lower ones as 'black boxes' in order to reduce the variety they are required to cope with, but the inbuilt structural provisions for both autonomy and control should ensure that this does not pose managerial problems. However, the VSM is intended to operate as a system in

terms of the interdependence of the levels; only system 1 should be viable enough to perpetuate itself (termed 'autopoesis' by Beer) and such tendencies in other system levels can be pathological.

The model can be used in the design of new organisations and systems, or to diagnose problems, by checking for the presence and effectiveness of key operational features. Descriptions of actual or potential design applications may be found in Beer 1981, Jackson 1988, Espejo 1987; and diagnostic uses of the VSM are found in Beer 1985, Wilson 1984, Britton and McCallion 1985; and see Espejo and Harnden, 1989.

Espejo (1987a) has taken up a major criticism of Beer's VSM, that as a managerial tool it can only reflect the interests of corporate management and denies the possibility (even inevitability) of conflicting interests and objectives. He describes the eludication of perspectives of the tasks and objectives of the organisation from different 'viewpoints', which need to be recognised in the interests of viability.

The model's strength is in its attention to the management of complexity, and its structuralist search for understanding underlying mechanisms for organisational behaviour. Unlike the simple homeostatic mechanisms of machine cybernetics, viability implies the ability to change; Jackson (1985) argues that the VSM can be applied to enhance an organisation's capacity for change. This view is not, however, universally shared (Dunsire, 1986). Concerned about the desirability and feasibility of directly implementing cybernetic experiments in social engineering, Thomas (1980) develops an alternative approach to using models like the VSM and conceptual model from Checkland's soft systems methodology - in 'generating tension for constructive change'. Thomas argues that the tension between perceptions of the current situation, and of an idealised model of 'what might be' can promote consideration of alternatives without seeing the model as a blueprint to be implemented per se. This action research approach makes assumptions explicit, and avoids the separation of facts from values, and analysis from conceptualisation. Awareness of contrasts between the ideal and the real can itself promote change, which together with conflict is not only natural, but may be essential if human societies are to avoid totalitarianism and injustice. This approach may be hard to evaluate, but the challenge is for the tension to promote constructive and desired change.

Flood and Jackson (1988) draw together the above, and more, criticisms of Beer's VSM. They conclude that there is much scope for dialogue and theoretical integration between this form of cybernetics and organisation theorists from the functionalist paradigm. However, viewing society from radical and interpretive paradigms (including Checkland's soft systems methodology which follows), the VSM does not sit so comfortably as differing perceptions of reality and structural conflicts remain problematic.

Peter Checkland's Soft Systems Methodology (SSM)

While hard and soft approaches have common roots, their distinctive underlying assumptions about the nature of the social world have led to the view that the development of soft approaches represents a paradigm shift in systems thinking (Naughton 1984, Checkland, 1983). Of particular significance are: the extent to which systems, problems and solutions can be seen to have some objective reality outside the minds and perceptions of actors and observers; the treatment of problem-situations as 'messes' and the attention paid to different viewpoints and conflicts; and the role of the analyst - a detached, neutral expert, or an actor whose involvement will intentionally or unintentionally change the situation under investigation.

As well as what were described above as soft trends in hard systems thinking, there is a growing number of systems practitioners whose approach is deliberately at the soft end of all or most of the above dimensions. Ackoff's 'design' approach to planning (1981), Churchman's 'social systems design' (1979), and the many applications of Checkland's soft systems methodology (SSM) provide accessible examples. Here we will focus on the SSM, because it incorporates the assumptions of soft approaches in a clearly-defined methodology designed to facilitate organisational change. It accepts the validity of diverse world views as well as explicitly applying systems concepts to the analysis of complexity. Indeed, Checkland (1983) has written:

> Health service systems can usefully be characterized by the older paradigm, in order to describe them in a consistent and complete way. But problem solving within them, as in other ill-structured problem situations, is likely to require the systemic learning cycle of the newer approach. (p. 66, his emphasis)

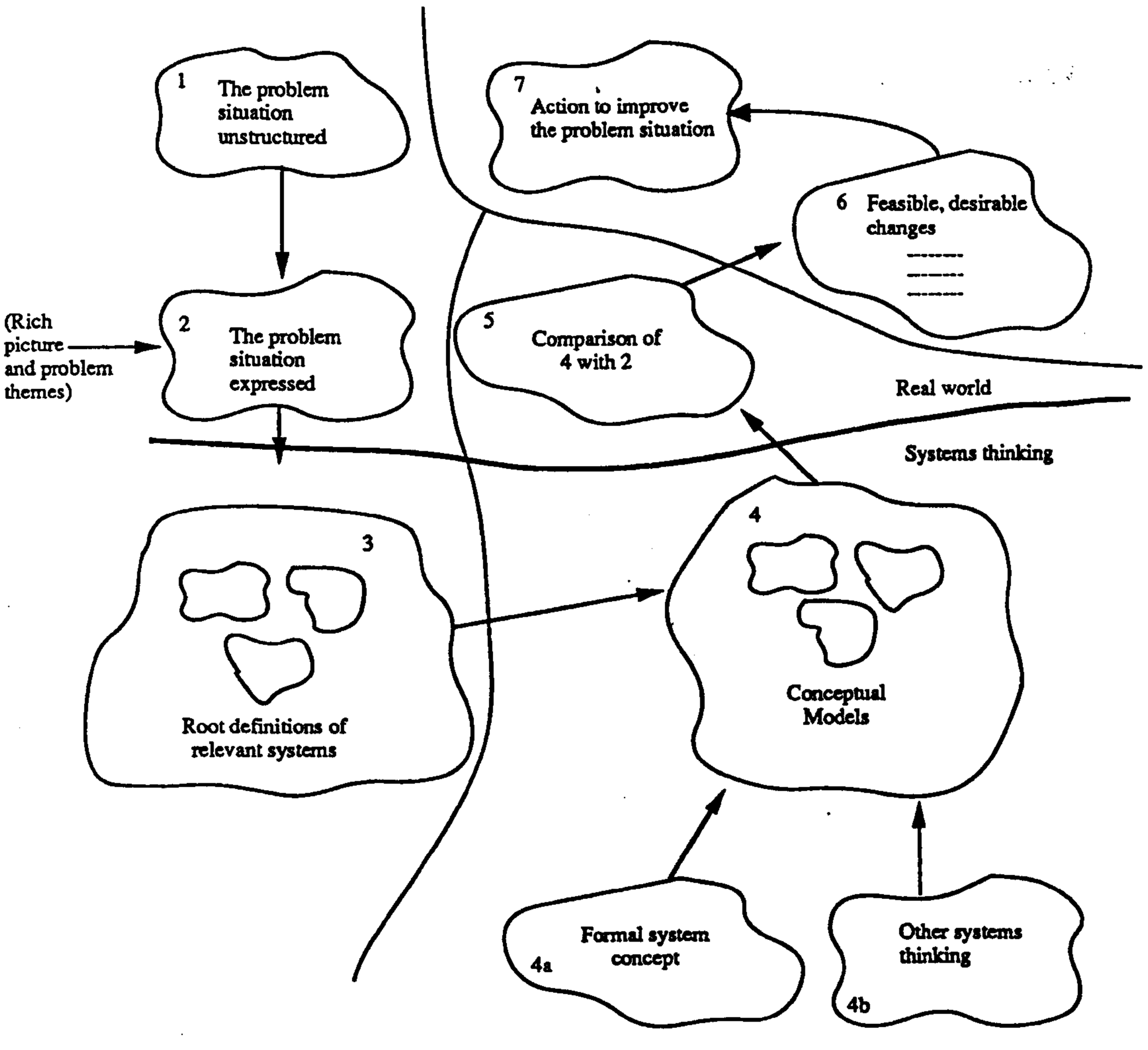
The approach aims to generate debate about feasible and desirable change (reflecting Vickers' concept of 'appreciation', see Checkland, 1985) rather than selling solutions; and the process of analysis itself will contribute to change and organisational learning. Organisations are treated as cultures, in which value systems are highly significant. However, SSM originally at least sought to produce consensus and progress towards common objectives, laying it open to similar criticisms of functionalist bias which will be discussed later. Jackson's evaluation of methodologies for use in community OR (1988) concluded that SSM was of value in 'systemic pluralist' problem contexts; Atkinson and Checkland (1988) suggest ways in which it may be extended to meet a broader range of contexts.

The basic features of the methodology will be described here; Checkland and others have elaborated many of the basic stages further, and continue to do so (as in, for example, Atkinson and Checkland, op. cit.) but the SSM described here reflects its status around 1981 (Checkland 1981, Naughton 1984). It is an iterative approach, divided into distinct stages, some of which are located in the 'real world' of human 'messes', and others in the 'abstract world' of systems thinking. While it incorporates some highly structured processes and

models, it may be argued that their role is less prescriptive than, for example, the viable system model.

The seven stages of the methodology are illustrated in Figure 2.8, and applied to a performance-related topic in Chapter 7.

Figure 2.8 The stages of the soft systems methodology (after Checkland, 1981).



Stage 1 represents the initial presentation of a situation of concern to the 'problem owners' - it may be highly unstructured, complex, value-laden, nebulous, an opportunity rather than a problem. The analyst's initial task is to explore the situation which has been presented, ascertaining its context, different viewpoints, 'the facts' as they appear to those involved, both quantitative and qualitative information. The situation may affect differently those stakeholders who 'own' the problem, and those who will be involved in doing something about it.

This picture is then structured in (not before) Stage 2, so that general patterns may be identified - significant issues, types of problems or challenges. The definition of specific 'problems to be solved' is avoided, and the essence of the patterns of concern is captured in, for example, a diagramatic 'rich picture'. This will include elements of structure, process, organisational culture, climate, norms and roles. From this, one or (probably) more problem-themes are described; they may be 'issue-based' or related to more specific primary tasks. These first two stages take place in the 'real world' of the problem-owners. The use of systems terms and concepts is deliberately avoided - seeing things as systems is, after all, only one interpretation of their relationships, and often a personal one at that. It is important here not to prejudge the structure of problem-contexts more than is necessary.

In Stages 3 and 4, the analysis takes place in the abstract world of systems thinking. This does not necessarily divorce it from the clients; clarification and discussion continues but the process is temporarily removed from the intricacies of the real-world context. All analysis will inevitably be based on partial understanding and knowledge of reality, and in this case the representation of reality developed in Stages 1 and 2 forms the basis for explicit systems modelling. As we will see, the iterative nature of the approach is built in as several problem themes are then each subjected to definition in more than one way. Each strand could be developed in detail through the rest of the seven stages, although it is likely that some will appear more promising than others in terms of their relevance to the client's priorities.

Stage 3 therefore involves the identification of 'relevant systems', and the specification of a 'root definition' for each. The systems are based on the issues or primary tasks from Stage 2 - for example, an 'issue' in an NHS context might be the way GPs value the skills of other non-medical members of a primary care team; a 'primary task' may be the deployment of these skills in the provision of effective preventive health care. In the former case, a relevant system might be 'a system to incorporate skills necessary to multidisciplinary team working, into GP training'; from a doctor's point of view it may seem more important to devise 'a system to minimise the wastage of GP consultation time'. The 'relevance' is that of the system described, to the improvement of the problem situation; dialogue with the client(s) will confirm or challenge this which in turn may generate further exploration. The relevant system is fleshed out by the development of a 'root definition'; it will remain an abstract 'model', with systemic features (an organised, interrelated structure,

purposefulness and so on), to compare with the real-world situation such that the contrasts may provide clues for improvements.

The construction of root definitions is aided by a checklist, known by the mnemonic 'CATWOE'. The letters remind the analyst of features which a reasonably complete definition (and therefore system) should identify. They are:

C - customers, those who benefit from (or are victims of) the system;

A - actors, the types of people who would undertake the activities implied by the system;

T - transformation processes, the fundamental things that the defined system does to its inputs in order to produce outputs;

W - weltanschauung, an explicit recognition of the world view (assumptions, values) which makes the system relevant;

O - owner(s), those with the power to cause the system to cease to exist;

E - environmental constraints, which may set limits on the nature and activities of the system being defined.

When the root definition is compared with this checklist, omissions may be inevitable but at least they will be recognised. Adding to the definition in order to include missing elements may produce a rather distorted definition; it may be better to re-examine the relevant system and produce a new definition including appropriate missing elements. Thus the definition describes the purpose, structure and (external and internal) influences on the system.

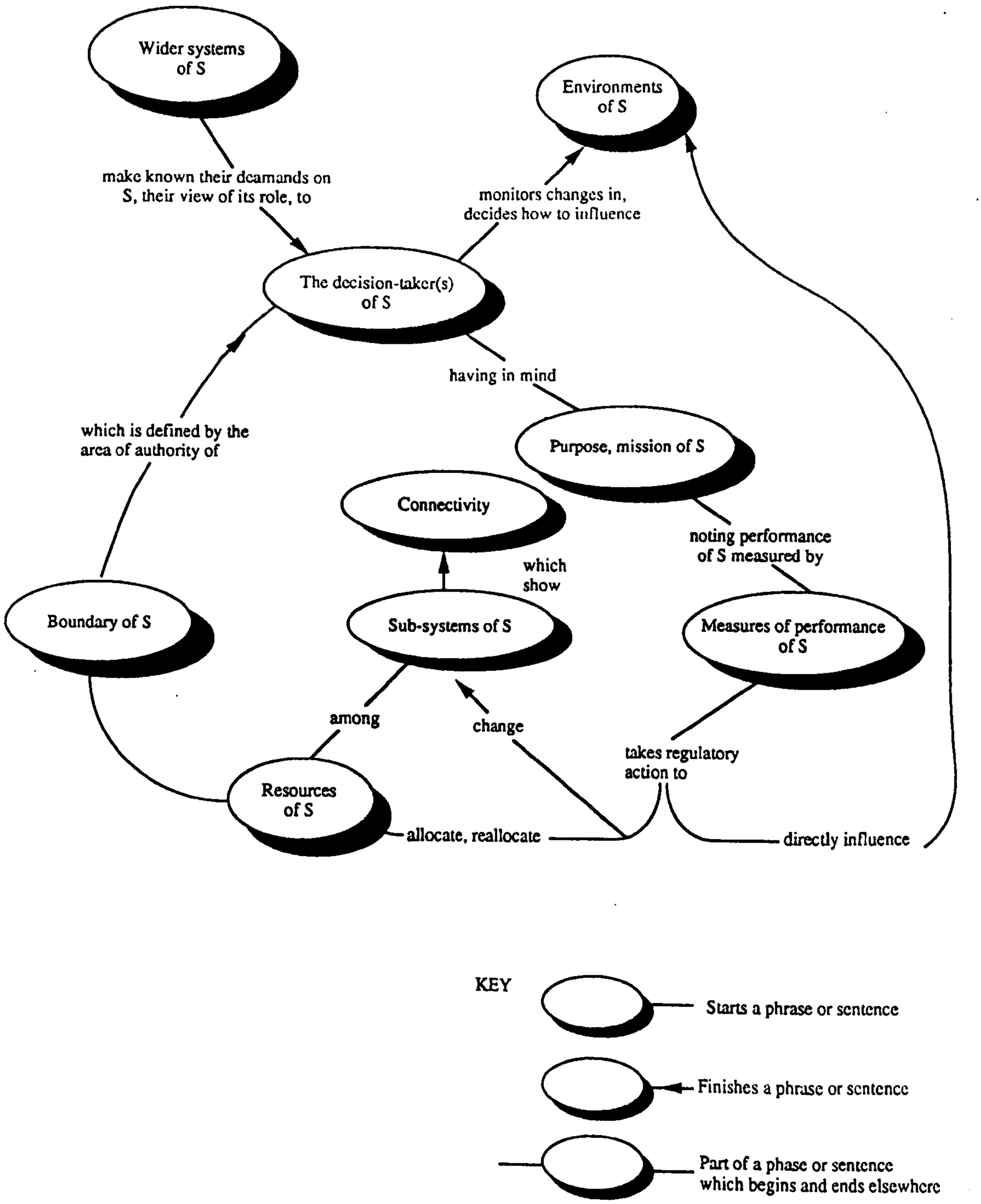
Stage 4 involves the construction of a 'conceptual model' of the relevant system, describing the processes it encompasses and logically implies. The model is still an abstract one. It will be used for comparison with the processes and arrangements in the appropriate part of the 'real world' to identify areas deserving attention and possible change; it is not a blueprint for the construction of a new system. The form the model takes is a diagramatic 'map' of activities - primary and secondary, perhaps grouped into subsystems of related activities; the activities themselves are the verbs contained in, or logically implied by, the root definition. The elements of the model define what it does rather than the detail of how it does it in particular circumstances. Remembering that this is an iterative approach, the construction of the conceptual model may lead to some sharpening up of the root definition.

While the approach is highly structured, it does not incorporate 'scientific' methods to test the completeness of models and definitions, but experience has resulted in the incorporation of tests to enhance its effectiveness; in the case of the conceptual model, this includes a comparison with a standard 'formal system model' (FSM). With parallels in role and

content to Beer's viable system model, the FSM sets out the features which a human activity system capable of purposeful activity must include. These features, and their interrelationships, are illustrated in Figure 2.9.

They include: a continuous purpose; a measure of performance; a decision-making process; a boundary related to the decision-maker's sphere of influence; an environment; resources; the means and ability to maintain a stable existence; components, themselves systems; and interconnections - communications, routes for influences etc. - between components. Thus the conceptual model can be checked against the FSM to assess its value as a device for identifying improvements in the real world.

Figure 2.9 The formal system model (after Checkland, 1981).



This identification takes place in Stage 5, when the conceptual model (derived from one of the original problem themes) is brought into play in the real world, and compared with the problem situation. The aim is to identify differences which may be significant, the implications of which can be explored with the clients. The comparison can be done by looking for the presence and behaviour of the activities in the conceptual model, in the real world as represented by the rich picture from Stage 2. Significant observations will then be included on an agenda for debate with those involved (client, problem owners and solvers, maybe others too), in the search for changes which are both systemically desirable and culturally feasible. This, in effect, is testing the hypothesis that a particular system is indeed relevant to the situation of interest.

Stage 7, implementation, should have been (implicitly at least) borne in mind from the outset. Unlike traditional, hard approaches, soft systems analysts should expect to maintain a dialogue with clients at each stage, to test understanding and ideas, rather than presenting 'the solution' at the end. However, suggestions for change will still need to be 'sold' to those involved; the rich picture stage may alert both analyst and client to potential surprises which may emerge during implementation.

These, then, are the stages of the soft systems methodology, and some of the 'craft rules' for their application. While the approach is rigorous and involves forms of hypothesis testing, it is regarded as technology rather than science because it brings several types of knowledge to bear on practical problem situations. A few examples of applications are:

- Davies' (1988) expansion of SSM to include detailed and explicit consideration of organisational culture throughout the analysis, applied in a small business;

- Gomez's (1982) development of the concept of 'organic problem solving', integrating several systems and cybernetic approaches, plus scenario planning, with evolutionary problem solving in a publishing company;

- Checkland's (1985) example of an internal study in the information department of a science-based company which was seeking to improve efficiency and competitiveness by reductions in staff, which illustrates well that the SSM can be used effectively by non-experts.

Earlier in this subsection we noted the view that SSM (like many other systems aproaches) had a strong functionalist flavour and ultimately sought consensus solutions which denied the possibility of inherent conflicts in organisations. These arguments have some validity and have been developed by Prévost (1976), Naughton (1979), Thomas and Lockett (1979) and Thomas (1980). Both Checkland's and other soft systems methodologies have been criticised primarily for the assumptions which their applications make about the desirable magnitude for social changes and their underlying power relations. Although SSM may

reflect a shift towards an interpretive paradigm, we might not go so far as Jackson (1987, p.138) in claiming that 'it is clear that the positivism/ functionalism that underpins traditional management science has been abandoned'. However, in challenging the dominant concept of 'systems' as adaptive wholes, which so readily fit with functionalist analysis, Atkinson and Checkland (1988) argue that they have established a place for dialectic in systems thinking. We will assess this argument in the final chapter in the light of experience of some systems applications.

2.4.5 Some alternative hard and soft approaches

Each of the four approaches outlined above - the hard and soft systems methodologies, control models and Beer's viable system model - will be applied to one of the performance-related topics in Chapters 4 to 7. However, in each case other approaches could have been applied, including several more outlined below. Then Section 2.5 outlines the process of methodology choice; the soundness of the initial choices of methodology or model for the topic analyses is assessed in Chapter 8.

Operational research (OR) and related disciplines

On the evidence of systems and health care publications and conference proceedings, the application of comprehensive systems methodologies such as the HSM and SSM is comparatively rare in the NHS and abroad. However, OR techniques have long been applied to health care. Throughout the NHS and DHSS, operational research departments are found contributing both to short term operational decision making and longer term planning. Boldy (1981) has provided an overview of both strategic and tactical applications, the emphasis varying between countries. The development of the 'Balance of Care' model by the DHSS for applications in care and manpower planning nationally and locally, is well-documented by both Gibbs (1978) and Boldy (1987). Further examples of relevant strategic OR applications in the NHS may be found in Bowen and Payling (1987), Clarke and Wilson (1985), Lee et al. (1986), Sanderson (1987), Worthington (1987).

At the tactical or operational level OR models provide inputs both in terms of 'expert' analysis of discrete problems, and to multidisciplinary teams or decision-support tools. A few examples, each relevant to clinical as well as administrative aspects of management, may be found in Worthington and Guy (1987), Forte (1985), Waters (1988) and Klein, J. (1987). The role and appropriateness of both conventional and more recent OR techniques as applied in the NHS have been explored in a questioning way by for example, Davies (1985); Meave's (1983) enthusiasm for OR in assessing the feasibility and costs of operational plans in a health district was not shared by Jones and Hirst (1986) and O'Keefe (1985).

The inclusion of OR within 'systems' approaches here reflects, to some extent, a personal view of OR from a non-practitioner (but see Robb, 1987). While there are many examples of reductionist OR, it shares the origins of hard systems approaches (Jackson and Keys 1987, Naughton 1984) and quantitative OR techniques can play an important part in the hard systems stages of evaluating and selecting specific steps towards desired goals.

The recognition of the limited capacity of traditional OR to contribute to complex, messy and pluralistic organisational and social challenges has been regarded in some circles as a 'crisis in OR' (Gass 1987, Hoos 1972, Jackson and Keys 1987). As disenchantment with OR has grown since the 1970s, new approaches are emerging, to which new labels have been attached. Three strands are:

- 'soft OR', seen by Keys (1989) to '...work on situations which are such that clients and analysts need to improve their understanding of that situation in order to tackle it adequately. Further, it has a particular interest in the behavioural processes which enable this understanding to take place.' (p.410). Writers who have been charting the emergence of this new strand in OR (Bennett and Huxham 1982, Bryant 1988 and Kijima and Mackness 1987) have included the following developments within their definitions of 'soft OR': cognitive mapping (Eden 1987), strategic choice (Friend and Hickling 1987), strategic assumption surfacing and testing (Mason and Mitroff, 1981), and soft systems thinking (Checkland 1981).

- radical/ critical OR, represented by Hales (1974), Rosenhead and Thunhurst (op cit) (who were criticised by Legey and Fuks, 1988), and Rosenhead (1987).

- 'community OR' - where more or less conventional OR and systems approaches are applied to problem contexts which typify community rather than traditional OR problems. Thus the emphasis is on satisficing, participative approaches which accept conflict over goals, facilitate open negotiation, and accept uncertainty (Jackson, 1988a).

If community involvement in health care is to develop in ways which policies for care in the community, health promotion and disease prevention, and responsiveness to patient needs imply, such new directions from within OR may have a great deal to offer. We will return to them in the final chapter.

Alternative 'soft' systems approaches

The development of critical systems approaches has not been confined to the hard tradition, although practical applications of alternative soft approaches are difficult to find. Of the eight performance-related topics on which this research has focussed, most are amenable to the application of conventional hard and soft approaches but several will be seen to be better suited to those emerging approaches which are specially designed to cope with uncertainty and conflict. Finding an approach which could help to address the 'politics of health', however, reflecting the different values which interested groups place on aspects of health care, has proved very difficult. Because these different values reflect power relations, professional and political interests, there must be doubts about how far systems approaches could begin to address the major social change which may be necessary for a significant reorientation of health services and resource allocation. Ulrich's 'critical heuristics' of social systems planning and design (1983, 1987) aims to provide a conceptual framework with which planners and systems designers can assess critically 'the normative implications of the problem definitions and solution proposals they inspire' (1987 p.276). But while his approach prompts challenges to rational planning, it provides few ideas for patients' pressure groups seeking to assert themselves in challenges to the medical profession, for example. We return to assess the scope of systems approaches in such circumstances in Chapter 8.

Causal loops and system dynamics

Our final 'alternative' models are mainstream systems approaches, with roots in General Systems Thinking and cybernetics. They have not been applied in their own right in this thesis, but could be valuable in the context of several of our performance-related topics.

Causal loops are diagrams which represent the circular causal factors in systems and environmental influences in terms of positive and negative feedback loops, very much as these terms are used in the control models described above. Like any form of system description, their scope is delineated by the purpose of the 'analyst' or observer, and they have been used during the explorations for some modelling applications in this research. They may stand alone as descriptive tools, or models for exploring hypothesised causal relationships of more or less complex systems and problems. A description of the construction of such diagrams is provided in Roberts et. al. (1983) and Hughes and Tait (1984).

Causal loop diagrams may readily be developed into a specific form of flow diagram, mapping the connections between variables (rates, levels of flows, causal links and influences) and the behaviour of the model over time. These in turn can be translated into equations for flexible and rapid computer simulations, and the resulting configurations may be displayed as tables and graphs. System dynamics modelling can build on these, and the

flexibility, capacity to cope with complexity in an evaluation context, and relative transparency and accessibility to clients has made it an attractive tool for projects such as the work of Dangerfield and Roberts at Salford University modelling the spread of AIDS and HIV infection. While this form of modelling has not been undertaken for this research, its potential use has been considered.

2.5 CHOOSING SYSTEMS MODELS AND METHODOLOGIES

2.5.1 Introduction

Table 1.4 in Chapter 1 indicated eight performance related topics, on four of which the systems applications in this thesis will focus. The systems approaches outlined above provide a wealth of methodologies and models which can be used in analysing such topics, with a view to making suggestions for change. In this section a number of ground-rules for selecting methodologies and their related models which may be helpful in different contexts are introduced. At the end of this chapter the procedure for the selection and application of methodologies, described in later chapters, will be described. Matching methodology to problem situation appropriately is clearly a crucial factor in the successful implementation of recommendations arising from the application of systems approaches. The choice between hard and soft approaches in general, and specific methodologies and techniques, must also involve consideration of the nature of the 'problem context' and the skills and interests of the analyst, and is likely to be an iterative process. Guidance on methodology choice is provided by Keys (1988), Banathy (1988), Oliga (1988) and Peters (1984).

2.5.2 Factors related to the analyst affecting methodology and model choice

In our summary of Checkland's soft systems methodology we noted the importance of recognising the Weltanschauung of the system of interest. The idea of Weltanschauung captures the view, explicit in soft approaches and generally implicit or ignored by hard approaches, that systems analysis of human activity systems cannot be value-free. This affects the analyst's choice of approach in several ways. First, once the assumptions about social reality underlying approaches are identified, they may be sufficiently incompatible with those of the analyst that the approach is unlikely to be chosen in any problem context. Alternatively, these assumptions may constrain the use of approaches to particular contexts - ones where the analyst has less strong feelings, or where their own Weltanschauung leads them to perceive greater congruence between context and assumptions. The analyst's Weltanschauung will have been shaped not only by their formal training and education, but also by norms and values of their family and socioeconomic environment, and relatively intangible cultural factors.

The analyst's relationship to the topic under investigation (and to the client, if there is one) may determine the quantity and quality of data which they are able to obtain, and the

possibility of obtaining further or more useful data as required. The physical and 'intellectual' distance between analyst and topic may be such that meaningful analysis is limited. An obvious limiting or enabling factor is the analyst's possession of, or ability to obtain, the skills necessary for the application of different models.

2.5.3 Some distinctive characteristics of approaches, methodologies and models

The topics to be explored in later chapters are a mixture of broad, as yet ill-defined areas of concern, and specific, well-bounded 'problems'. The systems ideas we are interested in applying are similarly diverse, ranging from comprehensive approaches - considered by some to be distinctive paradigms - and their associated methodologies and/ or models; down to tools which, while they may be relevant to more than one methodology, are limited in the scope of their contribution to the analysis.

Models can play very different roles, as 'perspectives' or 'surrogates' (Miser and Quade, 1988, chap. 8). When models are in the form of 'perspectives', ways of understanding the world (as in our use of the 'medical model' of health), their specific effects on the process and outcome of analysis may be hard to identify and evaluate. Where they are used as 'surrogates' - where parts of the real world which may be inaccessible or not amenable to experimentation, are represented in a simplified way, to be manipulated or observed in order to gain insights about the real world - clearly the value of such models depends considerably on the outcome of conscious assessment of their validity.

An analyst with more than one methodology at their disposal is likely to choose the most apparently appropriate one, based on the initial presentation of a problem or opportunity, and be prepared to change approach if the situation demands. However, systems approaches do have some contrasting assumptions which have implications for their successful application and so deserve recognition from the outset. Harrison, and Burrell and Morgan, have developed typologies of theories about human activity systems which draw out some of these assumptions and were used in the selection of methodologies for topics.

Harrison (1985, p.112) offers a two-dimensional classification of theories relevant to the implementation of policies in the health sector. The first dimension distinguishes between theories 'which assume that rationality can be seen or sought at the macro, that is organisational level' - top-down, unitary approaches; and 'those which assert that rationality can only be seen at the micro level, that is amongst groups, occupations, and individuals' - bottom-up, pluralistic, potentially conflictual. The second dimension 'concerns the extent to which actors are assumed to seek to maximise their objectives'. A

distinction is drawn between theories which assume maximising, proactive behaviour, and those which see satisficing as a more realistic mode of human behaviour. These pairs of dimensions, and the models which reflect the various combinations, are illustrated in Figure 2.10.

	Rationality at macro level	Rationality at micro level
Maximising/ proactive	Unitary models	Pluralistic models
Satisficing/ reactive	External control models	Bounded rational models

Figure 2.10 A typology of theories. (from Harrison, 1985, p. 108)

Based on their underlying assumptions, Harrison locates many systems theories in the 'unitary' box. While the traditional Weltanschauung of OR and cybernetics tends to treat decision-makers as having perfect rationality, and organisations as pursuing unitary goals, it is appropriate to locate a number of systems approaches in other boxes. Several could be located in the pluralist box, although they differ in their treatment of the distribution of power in society; some implicitly or explicitly assume it is reasonably evenly distributed (Espejo, for example), others - such as soft and critical OR - identify concentrations of power.

Although they are well-suited to applications at the micro as well as macro level, both the OU's hard approaches and Checkland's soft one could, it may be argued, fall into either the pluralist or bounded rational categories. As SSM treats both systems and problems as intellectual constructs, perhaps the latter is more relevant; HSM on the other hand may, while noting the likely plurality of interests, assume that it can be meaningful to identify measurable objectives for organisational actors to pursue. Harrison's 'external control models see organisational behaviour as driven by the need to survive in a threatening environment. We could perhaps locate here General Systems Theory based on biological analogies, and materialist approaches such as critical heuristics and some critical strands in OR.

Harrison concludes that the pluralist, bounded rational and external control models all provide more adequate explanations for the behaviour of health services than do unitary models, although performance evaluation is essentially a unitary concept. While there are strong unitary assumptions underlying traditional systems approaches, the task of this thesis is to identify circumstances in which such approaches may nonetheless be useful, and to explore potential contributions from systems approaches located in the other three boxes. The characteristics of the performance-related topics to be analysed in later chapters, suggest that explanations from within each of the four boxes of the matrix may be useful. Where appropriate systems approaches are not much in evidence, we may find that some of the other theorists discussed by Harrison, can make a valuable contribution to the analysis.

A second useful typology to help ensure that explicit attention is paid to the assumptions underlying social theories, is provided by Burrell and Morgan (1979). They map four paradigms in social theory onto the two-axis framework depicted in Figure 2.11; each paradigm generates contrasting or opposing theories and methodologies.

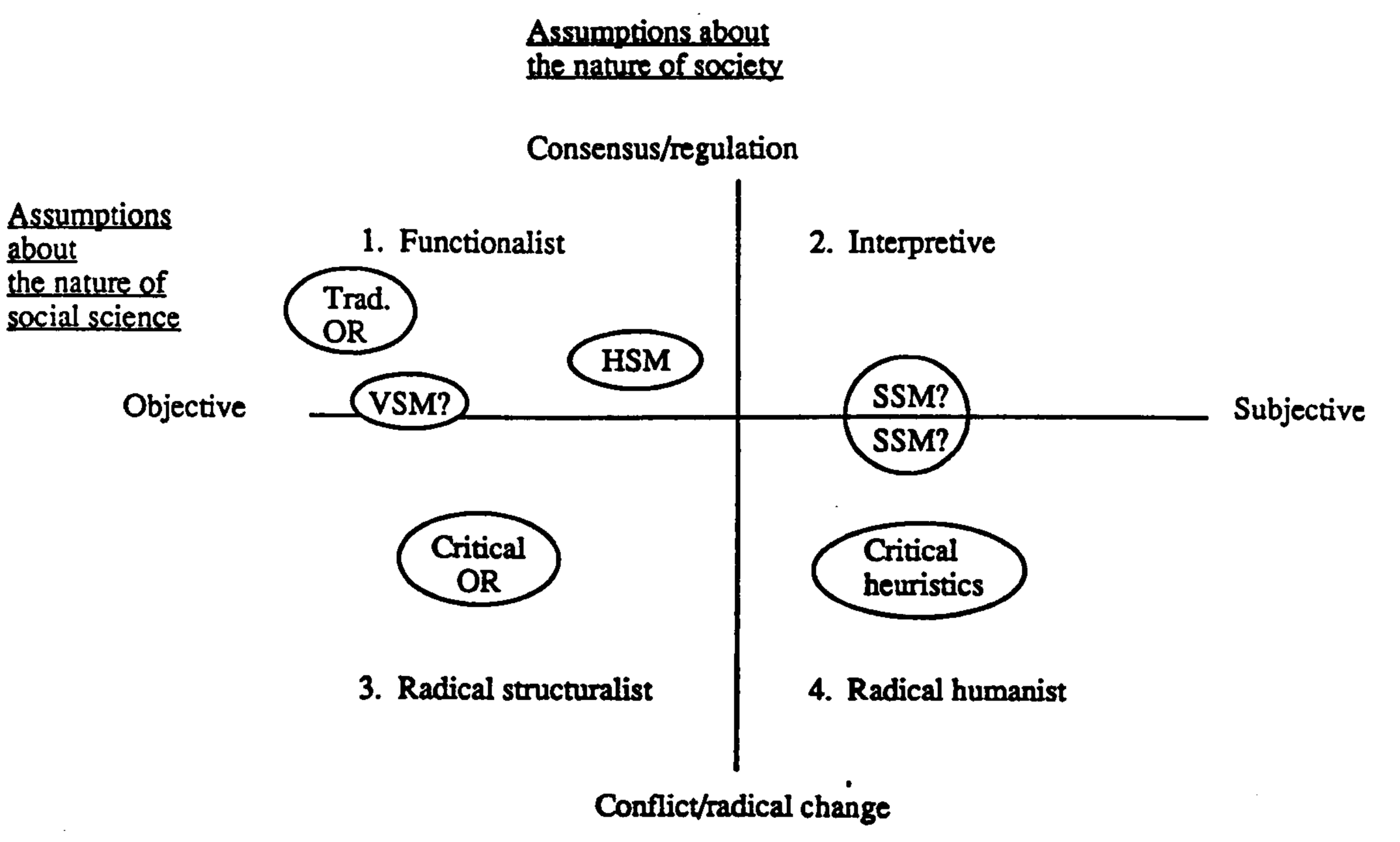


Figure 2.11 Paradigms in social theory.

We have seen that there are, within systems thinking, approaches which, for example, do not regard consensus assumptions about society as problematic, and regard it as reasonable to treat social reality as having an objective existence independent of the human observer. There are approaches which view social problems as having objectively 'correct' solutions,

which can be found and implemented by those skilled and empowered to do so. Such approaches can reasonably be placed in the functionalist paradigm. In terms of the available dimensions, this would include the O.U.'s HSM, although this could be seen as located rather towards the middle of the framework, embracing a greater degree of conflict and subjectivity than traditional hard approaches. The critical O.R. of Hales and Rosenhead and Thunhurst, may best be located in the radical structuralist box. On the other hand, there are systems approaches which see both social reality and 'solutions' to social 'problems' as subjective, intellectual constructs, which depend on attaining shared perceptions from the mass of individual ones. Checkland's SSM is clearly on the subjective side, but whether it rests in the interpretive or radical humanist paradigm can be seen to depend on the uses to which it is put, reflecting the context and the values of the analyst. We could perhaps locate the critical heuristics of Ulrich firmly in the radical humanist quadrant.

Thus we have a framework which not only draws attention to the assumptions underlying models of social reality, but may in so doing reflect the values of the analyst, through the location they give to their preferred models. If one is prepared to adopt a contingency, or complementary, approach to methodology choice - i.e. choosing the methodology which best appears to suit the requirements of the context - in the next subsection we will meet another framework which can assist in this selection.

2.5.4 Methodology choice and 'problem contexts'

If we have the benefit of a range of systems methods to choose from when faced with an application area, such as the eight initial topics to be analysed in this research, there are again a number of ground rules which can help identify salient features of the context. General guidance (Watson and Watson 1986, Peters and Naughton 1984) suggests that:

- soft approaches are better suited than hard ones where there is a high level of uncertainty about the nature, timing and magnitude of likely internal and external (environmental) changes;

- where conflicts of interest are present, and they can not readily be represented as constraints, softer approaches may cope better;

- this is the case too where the client set is heterogeneous, or there are conflicts of value involved;

- where it is unclear what the problem situation involves, or it is highly complex, or changing rapidly, softer approaches will be more suitable at least initially;

- if the problem or solution are at least partly quantifiable, and if a single (possibly optimisable) measure is important, or expert technical solutions are needed, a specific hard technique may be called for;

- tactical operational issues are more likely to be satisfactorily catered for by traditional hard approaches than long-term issues which impinge upon the purposes of an organisation or group, and which may require development of new capacities for learning as well as specific management tools.

The final classification system to be introduced in this chapter - Jackson and Keys' 'system of system methodologies' (1984, Jackson 1987, 1988a) - draws on many of the dimensions referred to earlier. The starting point is the assumption that choice of approach must first be matched to characteristics of the problem-context: the potential problem solvers, relevant participants, and system(s) in which the problem is located. Key variables are the nature of the system(s) and of the relationship between participants. Figure 2.12 shows the resulting classification of systems methodologies and problem contexts.

	Unitary	Pluralist	Coercive
Mechanical	M - U 'classical OR'	M - P strategic assumpt. surfacing & testing	M - C critical systems heuristics
Systemic	S - U viable system modelling	S - P soft systems methodology	S - C ?

Figure 2.12 The system of system methodologies (Jackson, 1988a)

Thus we have two continua for classification, related to problem context. Systems can be classified in terms of their relative complexity: at one extreme, 'mechanical' being relatively simple, predictable, closed; and at the other, 'systemic' - highly complex, with purposeful sub-systems, open to the environment, maybe not fully observable, and therefore manifesting more complex problems. The other continuum, similar to that which we have met already, is the classification of problem contexts in terms of the degree to which

participants have shared objectives - a unitary / pluralist dimension. However, a third continuum which adds value to this classification system is the extent to which any consensus which exists between participants, is arrived at through coercion, the exercise of power and domination.

The six problem contexts represented by the cells in the matrix imply the need for six suitable problem-solving methodologies, which Jackson is able (more or less) to identify from among those currently available, each of which have been referred to in this chapter.

The availability of this range of methodologies enables Jackson and Keys to conclude that systems approaches have evolved to meet the demands placed upon them by problem contexts. As Jackson (1987, 1988a) notes, the development of critical approaches which will meet the challenges of coercive contexts still has some way to go; but, as in the context of community OR, enhanced approaches are proving increasingly promising. This gap is emphasised by Oliga (1988) - 'the emerging picture is that of the glaring poverty of systems thinking in critical methodological terms' (p. 107).

There may too be dangers hidden in this approach, as from the outset it imposes structure on problem situations, based on the rationality of the analyst and their subjective judgements of categorising contexts into apparently independent types. Oliga warns against the uncritical acceptance of the dimensions, and the need to build in reflection on practice, to avoid developing a mechanistic approach to the categorisation of contexts. He, Jackson and others have acknowledged the debt owed by systems thinking to social as well as natural sciences, for the provision of philosophical and theoretical foundations. Thus while developments in systems thinking and management science are helping to broaden the range of tractable problem contexts - complex, subjective, more or less conflictual - we need not be averse to accepting that a complementary, contingency approach to methodology choice can be strengthened further by methodologies from other disciplines.

2.5.5 Changing approaches

It is quite possible, given the subjective nature of the processes by which methodologies are chosen and the imperfect knowledge we generally have about complex systems of interest, that the approach originally chosen will show signs of being inadequate to the task. Equally, it may be expected from the outset that an alternative approach may become necessary, or that different ones will be appropriate at different stages in an investigation. The topic, or the demands of the model, may become too complex for the time and / or skills available. Problems may emerge regarding the availability or quality of data; or the topic may turn out to be too complex or simple to justify the model initially chosen. It may transpire that there is more, or less, agreement over objectives, or more or less certainty over causal relationships, than had originally appeared.

While a thorough examination of the situation at the initial stage in each model considered here, should alert the analyst to potential indicators that a change may become necessary, one aspect of the iterative nature of many systems approaches is that analysis incorporates reflection; a recognition of the need to consider alternative approaches can be a sign of realism rather than failure. As the analysis of performance-related topics proceeds, an important element in the validation and evaluation of the overall approach will be an assessment of the suitability of each model:topic combination. In the next subsection those topics are briefly outlined; the thumbnail sketches are included here so that the analytical process may be easier to visualise. Section 2.6 sets out the ten-step analytical process which has been developed and applied to Topics 1-4, described in Chapters 4-7; consideration is given to the remaining topics in Chapter 8.

2.5.6 Applying systems approaches to performance-related topics - thumbnail sketches

Topic 1. Making and implementing strategic plans

Based on a rational comprehensive model, the NHS planning system involves a ten year strategic planning cycle (with plans reviewed every five years), put into operation through rolling two-year short term plans, with capital programming on a longer timescale. Regional strategic plans are an aggregate of district strategies, plus plans for regionally-managed services. As the strategy is rolled forward there is consultation with the public and politicians over the second year of regional and district short term plans. The Secretary of State has the final say on any contested elements.

This theoretically well-ordered process does not necessarily run smoothly. The process itself, and resources with which to provide new and existing services, are subject to annual revision from the centre, often late in the planning cycle. As well as long-term policy objectives, such as the closure of long-stay institutions in favour of community-based care, new and indeterminate demands have been placed on health authorities at various points in the planning cycles which distort planned progress. The complexity of data and information systems required for monitoring plan implementation, has contributed to many surprises as districts and regions have strayed widely from their 'strategic pathways', failing to control spending on acute services. The role played by annual reviews in monitoring and encouraging progress towards strategic objectives and checking on the fulfillment of short term plans, has been unclear. This reflects the problems of integrating the activities and processes of different NHS levels and timescales, and the dispersal of power and control away from planners and managers and towards doctors and politicians. Changing patient needs contribute to uncertainty.

The Open University's Hard Systems Methodology (HSM) bears a close resemblance to several corporate planning models, as well as the NHS Option Appraisal system for capital developments. If our model is not seriously deficient, is it being operated ineffectually in the NHS? Or is it an inappropriate model for strategic planning? Perhaps the problem lies with rational comprehensive planning itself, which has had many critics. Or perhaps the NHS planning system is not really like the HSM, and if it were changed to resemble the HSM more closely it may aid plan implementation. These are options to explore in Chapter 4.

Topic 2. Controlling performance through structure and process

This topic probably represents the most commonly-held conception of NHS performance evaluation. The routine monitoring of inputs and activity levels in regions, districts and units, and the comparison of performance data with local targets and the performance of comparable organisations, should be central to the managers' role and the mainstay of the annual review process. Balancing income and expenditure budgets, performance measurement using the DHSS indicators (PIs), hitting and not exceeding manpower targets and the completion of capital projects on time - all are frequently the subject of annual and in-year monitoring from the top down. Such evaluative practices, linking organisational and individual managerial performance, seem likely to be here to stay. But the complexity of many day-to-day management tasks, and frequent interventions from the political or social environment, have created an organisational climate which still tends to foster crisis management and hamper effective operational control.

Cybernetic control could offer a combination of rapid information to management if things were going wrong, identification of what action may be required, and relative autonomy for lower operational levels. We can compare current procedures for routine control of process and structural elements, and annual reviews, with a basic cybernetic model. In the light of criticisms of such models, we will consider ways in which concepts from organisational learning can be incorporated into multiple-loop control models before suggesting changes to routine monitoring and review in line with such models, in Chapter 5..

Topic 3. Improving the quality of NHS care

We have noted that the emphasis in performance evaluation in the past has been very much on quantitative, rather than qualitative, aspects of care. In part this must reflect the interests of those who have devised the performance measuring tools - primarily civil servants on behalf of politicians, who have been accountable for the efficient use of public funds rather than the effectiveness and acceptability of the services provided. However, spurred on by the Griffiths Report, efforts to measure and improve quality of care are increasing among health authorities, health professional organisations, patient/consumer groups and politicians. Many practical problems of 'measuring quality' are being addressed; shortcomings in available data are being recognised and their significance assessed.

Implementing piecemeal changes directed towards better quality care has not necessarily produced significant results. If we want a model for designing quality systems which provides the means to control the quality of work of many more or less autonomous groups, and reflects the changing needs and expectations of the environment, Beer's Viable System Model might be appropriate. However, while this provides a blueprint for the structure and aspects of the behaviour of complex, hierarchical organisations, a softer

approach like Checkland's may be needed for the implementation of any new structures and processes, as personal and professional values are questioned. This topic is addressed in Chapter 6.

Topic 4. Assessing performance through outcomes of care

A major omission from existing performance evaluation processes is routine and comprehensive evaluation of the outcomes of health service care. The reasons for such omission include technical and cultural/ political factors - and the distinction between such categories is often blurred. For example, a full understanding of the ways in which clinical treatments work is often not available to experts, let alone to patients; this partial knowledge limits the value of 'informed consent'. However, patients are often not made aware of such uncertainty; professional culture and the positions of organisational power held by doctors have stifled the debate about the outcomes of health care. As resources for health care become increasingly outstripped by demand, there has been a growing debate about how scarce resources should be rationed to maximise health benefits. Although the NHS can only play a limited role in preventing ill health, when faced with more or less effective responses to such ill health it is reasonable to monitor outcomes at least in order to improve future care and ensure the equitable delivery of care to a high standard.

Health outcome data can pose problems including validity, relevance to the needs of different interested parties, and cost. However, most such problems can be overcome at least partially, if the will exists to bring outcome evaluation onto the agenda. Proxy measures can often be identified which, while they may be far from ideal, can still be of value provided that their limitations are recognised. If systems can contribute to the search for better ways of evaluating and improving the outcomes of health care, softer methodologies may hold the most promise, at least initially. Not only is the context highly complex, but also the values of professionals, managers, policy makers and consumers all have a bearing on actions which may be indicated by outcome-based assessments. In Chapter 7 we will explore this topic in more detail by using Checkland's Soft Systems Methodology (SSM) as if to advise Department of Health civil servants charged with the task of incorporating outcome indicators into routine monitoring systems. Harder approaches may well have a part to play when the nature of 'the problem' becomes clearer.

Topic 5. Planning for uncertainty and complexity

The complexity of health services and unpredictable but strong environmental influences could contribute to problems in the successful implementation of strategic plans. Health planners, at both local and central levels, are starting to explore the potential of techniques designed to improve the robustness and flexibility of plans in the face of such uncertainties. A number of soft, messy considerations come into play here. Planners, politicians and patients all have differing - and often conflicting - views of the future and how to plan for it. Viability depends on conscious and effective monitoring of the environment, and on achieving a balance within complex organisations of autonomy and control. These considerations are especially important for health services which are trying to combine responsiveness to local needs, with higher level controls on standards and costs. Further, flexible planning places new demands on data which may pose problems of sensitivity, for example.

Topic 1 suggests the application of the HSM to strategic health planning. Here we can envisage the use of techniques for flexible and robust planning at the modelling stage of the methodology. Such techniques have been emerging in recent years drawing both on operational research and organisational development approaches, and some early applications to health services have been observed. These could be linked to wider issues of planning and managing change, and the potential role for decision aids which incorporate systems concepts.

Topic 6. The politics of health

The appraisal of the performance of the NHS has on occasion been linked to debates about overall resources for health care, the merits of 'socialised medicine' and the custodianship of the health service exercised by governments of different complexions. The 'politics of health' relates as much to public concerns about the relationships between health and life chances, as to party politics and health policies. Where 'political' issues may play a major part in the debates surrounding the other seven topics, we have tended to suggest the use of softer approaches. Harder models have been reserved for those aspects which can be reasonably clearly defined and understood, and where there is considerable agreement as to objectives. Are there points at which the search for tools to help NHS performance evaluation must turn away from systems approaches?

The types of context at which this limit may be reached could be expected to include those where:

- quantification is not appropriate as those involved do not even agree about the relevant dimensions of performance.

- objectives may be shared but influence over their attainment is severely limited by the balance of power or locus of control.

- conflicts of interest are not amenable to negotiation or trading between groups, professions or classes, leaving those with power to exert their interests through coercion or decisions are simply not made.

- conflicts of values predominate and limit agreement over objectives or routes to them - values which may be related to interests, or to personal or shared beliefs about the sanctity of human life, importance of human dignity and so on. These will influence opinions both about the distribution of scarce resources and the moral acceptability of the uses to which they are put.

Is it worth considering the possibility that systems approaches can contribute to such debates? This may be difficult using the format to be applied to the other topics. However, the field of health politics is just one example of 'disputed territory' or no-go areas for systems. It could provide an important testing ground for those approaches we met in Section 2.4 and which, it is claimed, can tackle more conflictual issues - soft or critical OR, soft systems methodology, critical heuristics. When we draw together some conclusions about the value of the approaches applied to all of the topics, and the contribution to be made by other approaches to the study of organisations, we will consider whether the more critical systems approaches could provide promising ways to tackle some of these distinctive healthcare issues.

<u>Topic 7. Reducing waiting lists and times</u>

Ask any member of the public what they feel is the biggest weakness in the service provided by the NHS, and they are likely to say 'long waiting lists' or the length of time people wait for treatment. They may not have a clear idea of who is waiting, for what and where. NHS information systems provide quite a lot of data about where people are waiting for inpatient treatment, who they are waiting to see, how long they have been waiting. Less data is collected about numbers of people, or lengths of time spent, waiting for an outpatient appointment. We can investigate the relationship between waiting lists and times, and hospital funds, staff, facilities, efficiency and productivity. We do not know as much as we might about the routes by which people are placed on waiting lists, and the

behaviour of GPs and consultants in the creation and diminution of those lists. We know even less about the extent to which the number and health conditions of those waiting, reflects the need for treatment in the community as a whole, and almost nothing about the costs to those waiting in terms of worry, pain, discomfort, lost wages, extra costs of living. What we do know (Yates, 1987) is that none of the relationships are simple, and that the costs to would-be patients are extremely high.

Because the number of people waiting for treatment has been over half a million almost since the inception of the NHS, and waiting lists and times vary widely between health authorities and consultants, the presence of such an obvious unmet demand is widely considered to be an indication of inadequate performance. As well as having been a frequent topic for regional and especially district performance reviews, attempts to speed up treatment have most recently taken the form of a central government 'waiting list initiative'. However, the number waiting continues to rise. Behavioural aspects are demanding attention, as well as the extent to which the power to control lists is not vested in those with the money to spend on their reduction. A systems approach to this problem area could try to identify aspects of underlying causes to help prevent long lists developing, or to minimise their impact on the nation's health, as well as addressing the immediate policy problem. Models which may aid the clarification of underlying mechanisms and the exploration of the effect of changes to parts of the system, such as causal loop diagramming and system dynamics modelling, may be appropriate. For an exploration of the behavioural aspects of waiting lists and implementation of policies for change, soft approaches may be most suitable.

Topic 8. Planning for health

The dominance of health services by those operating with a curative, medical model of health was discussed in Chapter 1, and the recent reassertion of the importance of 'public health', prevention of disease and the promotion of good health. The World Health Organisation's targets for 'Health for All' echo one of the original objectives of the NHS. However, the shift in focus from cure to prevention will take a long time to affect patterns of morbidity and mortality on a large scale in the UK, as campaigns to reduce heart disease and smoking show. Obtaining the resources for promotion and preventive activity is difficult when changes in performance are slow to appear. We can identify a wide range of contributory factors, some more amenable to systems intervention than others. Because of the long timescales over which change will occur, in many cases it may seem appropriate to accept open loop control, hoping that at least partially-understood interventions will have the desired effect in due course. However, strong and unanticipated environmental influences may intervene, and undesirable positive feedback may affect individuals or communities.

In seeking to enhance planning for health rather than illness, there are a range of obstacles: devising workable targets, measures and techniques; juggling different interests; and messier problems related to the values and priorities of professional groups, political parties and the general public. There is a need to explore some of the mechanisms by which aspects of 'planning for health' could be put into effect in a structured way but enabling the public to participate. There could be a role for control models in the design and implementation of health promotion programmes in a dynamic environment, and also tools for community development being developed by 'community OR' practitioners.

2.6 TRANSFORMING 'EVALUATION' INTO 'ACTION': METHODOLOGIES AND MODELS FOR THE NHS.

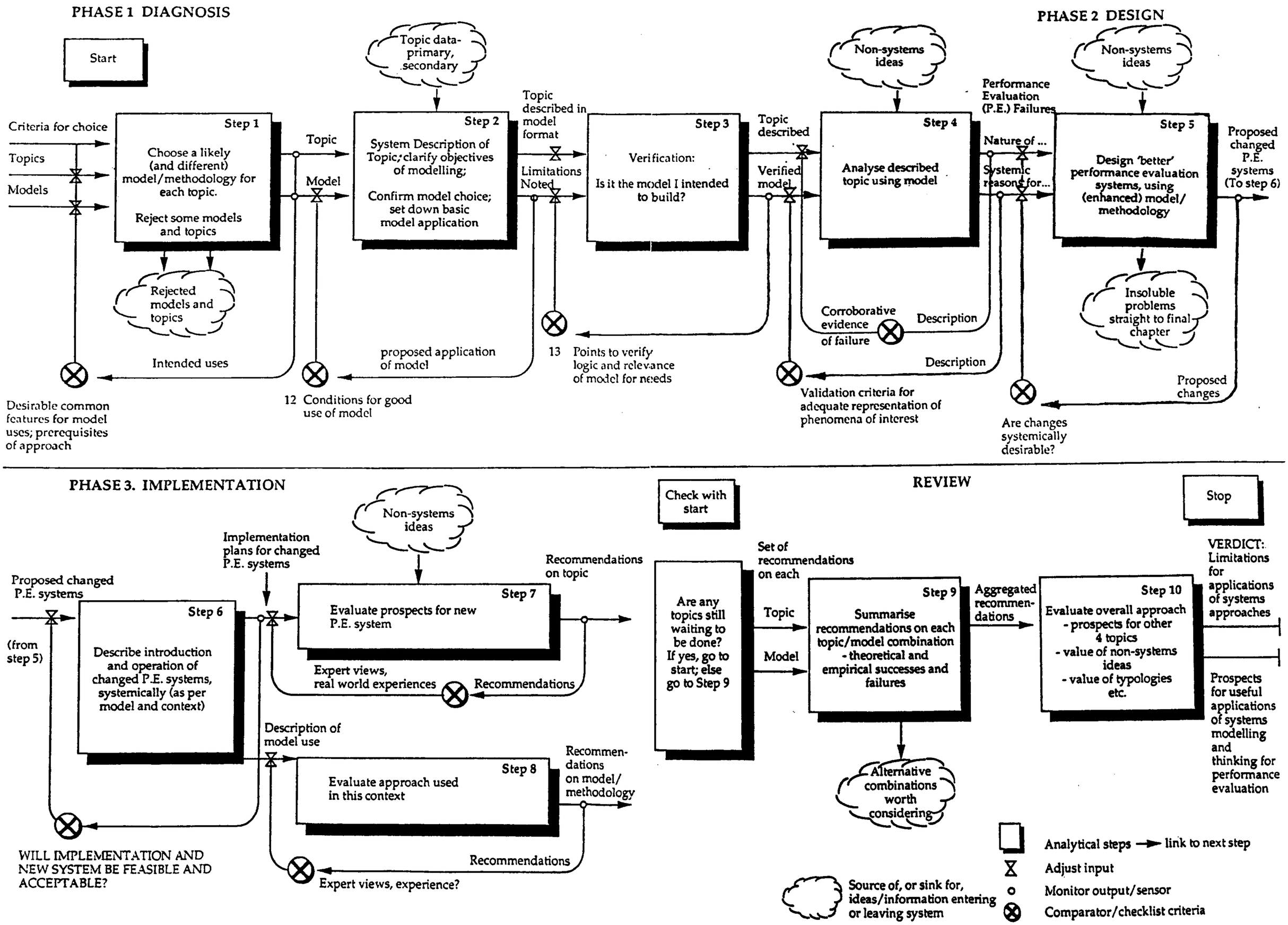
2.6.1 Introduction to the analysis.

The foregoing chapters have identified a number of areas of acknowledged concern both about the performance of the NHS and about the means currently available for evaluating performance. The case has been set out for adopting a systems approach in analysing these areas of concern and suggesting and developing improvements to performance evaluation processes. But what will this involve? This section sets out the process which has been applied in the analysis of four of the eight performance-related topics. It was developed to meet a generalised 'need' for a systematic way of choosing and using appropriate systems methodologies and models, within the constraints of a research project. This context has naturally led to changes in the analytical process itself and the style of application, as variability has been introduced through the experience of developing and using the process, the differences between the methodologies and the nature and scope of the topics and information regarding their problematic features.

One of the overall aims of this research has been to test the contribution which systems approaches can make to the analysis of health service performance. Thus selections of types of topics (more or less messy and value-laden) and of potentially-useful systems approaches and methodologies have been assembled. The common analytical process described here was developed in order to be able to compare the effectiveness of the combinations of approaches and topics, as well as to introduce rigour into each analysis. However, the three sources of variability have led to differences in emphasis which will be revealed as the applications are described in Chapters 4-7. Chapter 8 draws together conclusions about each application, compares them and considers the implications of these assessments for further applications. For example, does it seem likely that an alternative methodology could have produced greater insights into a topic? If so, what does this tell us about the procedure for methodology choice which was adopted, or about the amenability of that type of topic to any systems analysis?

The ten-step analytical process adopted for these first four applications is set out in Figure 2.13. It may appear cumbersome, as many of the steps have feedback loops which are built in to encourage reflection as well as thoroughness. However, several simply involve checklists which are described later in this section. From time to time in the applications, iteration has been necessary, moving back to an earlier stage to improve on the material for use in later ones; and some steps were designed to generate observations on the process as well as its outcomes.

Figure 2.13 The analytical process.



To make it easier to compare the strengths and weaknesses of the different systems methodologies applied here, each one has been divided into three phases - diagnosis (description and analysis), design and implementation, following Simon (1979) and Watson and Mayon-White (1986). The common set of ten steps by which each analysis has been organised and recorded can also be divided into such phases, with the addition of a review phase, indicating the completeness of the process. These phases are indicated on Figure 2.13, but to avoid confusion the reports of the analyses in Chapters 4-7 and conclusions in Chapter 8 are presented simply in the form of the significant outputs from the ten steps and feedback checks.

Further clarification of the use which is made of the terms 'methodology' and 'model' in this section may be helpful. We noted in Section 2.4 that within 'harder' and 'softer' systems approaches or schools of thought, different methodologies could be identified - sets of activities for analytical applications. Within these - indeed in some cases as the main activity - were systems models, appropriate ways of representing reality. As we will see, each topic/ methodology combination places a different emphasis on the role of modelling per se in the analytical process. We return to the subject of models in the next subsection, but note here that in places (e.g. on Figure 2.13) we refer simply to systems models, leaving the methodology of which they are part implicit.

Steps 1 and 2 of the analytical process comprise: a more detailed description of the topic, the objectives and nature of the processes of methodology or model choice and application; followed by confirmation of the initial choice of systems methodology and associated models in the light these explorations. Step 3 involves verification that Steps 1 and 2 have produced the descriptive model which it was intended to build.

Step 4 sumarises the full analysis of the topic using the chosen methodology, including: methods of data collection and use; insights from theory; identification of the weaknesses in performance evaluation it exemplifies; and suggested systemic reasons for them. Naturally the form of description and level of detail will vary, reflecting the varied nature of the models and topics. The model is then validated, using some simple tests to assess whether it is an adequate representation of the phenomena being modelled, for the purposes of the study. Verification and validation processes are described below.

In Step 5, the focus is on the design phase - producing some proposals for changes to the performance evaluation system under scrutiny. Steps 6 to 8 consider the potential for implementation of some of the outcomes from the modelling or other parts of the methodology. Before we can conclude with any recommendations for changes in the approach to real-world performance evaluation activity the success of each systems application will be evaluated (in terms of criteria identified later in this chapter). Chapter 8 will, as mentioned, assess the overall approach, and the potential for further applications of systems methodologies and models to health service performance evaluation.

The outputs from three feedback checks - from Steps 2, 3 and 4 of the analytical process - are presented in summary form in Tables 1, 2 and 3 respectively in an Appendix to Chapter 8 for all of the analyses. The checklists of questions are set out in this section.

2.6.2 Models for NHS management and learning.

What do we mean by 'models'?

Each of the systems methodologies introduced in 2.4 includes the use of one or more models, through which a representation of the situation of interest can be 'manipulated', as an aid to understanding or experimenting with changes before making suggestions for action. Indeed, organisational activities embrace many sorts of modelling although they may not be labelled as such - the use of rules and checklists to bring practice into line with ideal standards, budgets representing the tangible and malleable financial dimension of a more complex set of objectives, and so on.

What do these examples and our systems uses of 'model' have in common? In Section 2.5.3 the distinction was made between models as perspectives (ways of understanding the world), and models as surrogates for substantive problems. Here we are going to assume that the surrogate approach is not the most appropriate use for models. There may be elements in our performance-related topics which can be converted to such models and manipulated to provide useful insights, but we want to capture a wider range of aspects of the topics and their problematic elements. Our constructions reflect a particular perspective on them. No models can capture the full complexity and richness which has drawn such topics to our attention in the first place, but we will be seeking a wider range of insights than we could hope to obtain by restricting ourselves to appropriate uses of models as surrogates. On the other hand, rather than obtaining much information about the use 'in the field' of models as perspectives (and also the 'mental models' which those involved with performance evaluation processes hold of salient aspects of the NHS), where relevant the research methodology has lent itself better to concentrating on the more easily-observable use of models as surrogates - OR applications, simulations and the like.

Thus the common feature of each of the methodologies and related models to be applied here, is their conscious attention to systemic elements both in the analytical process and real world situations. Although some of the analyses will focus on small parts of big problems, or involve highly simplified representations, there will always be recognition of the reductions involved. The outputs from these models should not be treated in isolation from their wider context, about which further knowledge will be required. Equally, by acknowledging that the modelling represents one perspective on a problem, we accept that it is likely to be possible, useful, even necessary to explore the situation with other models

from different perspectives (or with the same model, from different perspectives). The models applied here are each intended to be simply one way of looking at the topics - ways which have been consciously and rationally chosen but are nonetheless subjective. Here they can only be superficial, but even if the relationship between analyst, models and contexts permitted far more detailed modelling the models would still only be partial representations of reality.

So here we will be using a number of different models (within systems methodologies) as perspectives on a range of problem contexts. In order that they can be used as effectively as possible (here and in any future practical applications), both the models and the ways in which they are applied need some consistent features. So after the initial identification of a likely methodology or model to use with the topic, the proposed approach is checked to see that it can meet most of the following requirements (the comparators in the feedback loop from Step 1 on figure 2.13):

- a stated purpose for the application, against which the outcome of the modelling application can be evaluated (the model itself being simply a means to an end) and including, if appropriate, any hypothetical 'client' or analytical viewpoint;

- the application of a relatively formalised, 'rational' approach to topics concerned with making and/ or enacting decisions, which can be documented and shared with others;

- a set of identified steps or components (in both the models and the way they are applied), which can be used as a checklist for sufficient 'completeness' for the current purpose - of the process, its outputs or outcomes;

- an aim of providing organised ways of handling complexity and uncertainty and the potential for use of the models as organised ways of managing change;

- recognition of the constraints on the interpretation and wider applicability of the results which come from one specific application;

- approaches should allow for multidisciplinary working, and for accommodating the viewpoint of multiple stakeholders, since these are common characteristics of problems in health services;

- approaches to modelling, and their outcomes, need to be flexible and robust;

- the approaches need to be themselves subject to critical review.

This last condition will be met in this thesis through the validation and evaluation processes incorporated in many of the steps of the analytical process.

Describing topics, and choosing methodologies and models.

Step 1 identifies a potentially promising combination of topic and methodology from those available to the analyst. Step 2 takes this combination forward. It describes the problematic aspects of the topic more fully than the thumbnail sketch, and subjects the methodology and model choice to more rigorous investigation.

In section 2.5 some techniques for choosing systems approaches for particular contexts were described. Essentially the desirability of selecting an approach and methodology powerful enough to be of value in the context, and which embodied assumptions about the world which were compatible, was stressed. The choice of methodology and its associated model(s) would be constrained by the analyst's competence and (more or less significantly) by their world view. To put this 'contingency' approach into operation and quantify the considerations described above, a simple scoring system was applied to each of the suggested combinations of methodology and elaborated topic. Negative or positive scores were applied to various combinations of methodology/ model/ analyst/ context considerations. As well as the aforementioned constraints, these considerations included whether the context was a 'problem', in which differences in values were not important, or a 'mess'; and whether the suggested methodology was designed to cope with value-laden situations. A further consideration was whether the suggested methodology would draw out viewpoints and make issues in the problematic context visible, if necessary. In terms of Long and Harrison's matrix, a relevant factor was whether the type of model was suited to the context in terms of there being an explicit agreement that a gap between S_0 and S_1 needed to be bridged; and whether an optimising or satisficing 'solution' was sought.

The aggregate score following a number of such tests indicated how sensible it seemed to proceed with the initial choice of methodology for each topic. In most cases the ambiguities and uncertainties in the variables in the scoring system at this stage meant ranges rather than single scores were obtained. In a few cases more than one methodology or model was considered from the outset, for use in the different phases of analysis or because several seemed equally promising. Table 2.2 indicates the scores given to each of the initially-suggested topic/ methodology combinations. Any potentially significant problems with the combination indicated by this scoring process are noted in Chapters 4-7 when Step 2 is described for each of the four selected topics. There too we will discover the specific perspective adopted by the analyst and nature of the hypothetical client, where these needed to be explicitly identified in accordance with the methodology.

Table 2.2 Performance-related topics and scores for the initial choice of systems methodologies.

Topic	Methodology/ model	Score (range)
1. Making and implementing strategic plans.	Hard systems methodology.	2-5
2. Controlling performance through structure and process.	Cybernetic control and double loop learning.	3-4
3. Improving the quality of care.	Viable system model; organisational development or soft systems methodology for implementation?	3-4
4. Assessing performance through outcomes of care.	Checkland's Soft systems methodology.	4-6
5. Planning for uncertainty and complexity.	Hard systems methodology; OR-based decision aids.	2
6. The politics of health.	Critical/ soft OR; SSM.	0-5
7. Reducing waiting lists and times.	Causal loops & system dynamics for diagnosis and design; non-systems approach to implementation.	2-3
8. Planning for health.	Control model plus organisational development/ learning.	1-3

As four of the eight topics needed to be selected for analysis, and different methodologies or models were ideally to be applied, the following four combinations with relatively strong scores were chosen:

1. Making and implementing strategic plans; the OU's hard systems methodology.

2. Controlling performance through structure and process; cybernetic control and double-loop learning.

3. Improving the quality of care; Beer's viable system model.

4. Assessing performance through outcomes of care; Checkland's soft systems methodology.

Thus, in Chapters 4-7, the salient features of these topics and their chosen models and are identified at Step 2, including: the expectations of those involved in the real world, as to what the performance evaluation activity concerned was aimed to achieve; the problem areas which were being experienced; the objectives of the applications here, of models to topics; and factors which may be expected to limit the scope of the analysis in this research.

<u>What makes a 'good' model?</u>

Modelling plays a major part in each of the chosen methodologies for Topics 1, 2, 3 and 4, as we will see. In this subsection we will note 12 characteristics which it would be helpful for a model to possess intrinsically, in order to maximise its practical value in the sorts of application areas considered here. When the models are subsequently applied they will be scored for the presence of these features. As each model is to be applied to a different context, their potential value may not at this stage be predicted by their score in relation to the following 'desirable' characteristics and some of the characteristics will be of limited relevance here. However, these scores will be of value in later evaluation of the analytical approaches and consideration of alternatives. In the next subsection we will identify a further set of important features which will be sought for each combination of model and context, which will aid in the verification of the models.

But first, what are some of the characteristics of an intrinsically 'good' model? A range of texts on modelling suggest that a good model:

1. is easy for the potential analyst to use, given appropriate equipment and training;

2. is cost-effective to develop and apply;

3. involves analytical processes which are easy for the analyst to understand;

4. involves analytical processes which are easy for the client to understand;

5. is credible to both client and analyst, providing a realistic enough representation of the situation;

6. is designed to enhance and inform, not to replace the decision process - and is presented as such;

7. uses good quality data - i.e. data which is: timely, relevant to need in terms of sensitivity and specificity, valid and reliable, unambiguous and accurate, available cost-effectively, excludes artefacts (these criteria were identified in Chapter 1);

8. has data demands (for both model building and validating) which are manageable;

9. can use surrogate or proxy data if necessary;

10. is robust to the entry of different data (e.g. relating to a range of times and places);

11. can be assessed adequately in terms of sensitivity (the selection of appropriate sensitivity tests for non-quantitative models will depend on the clarity of the problem situation, and the judgement of those involved);

12. produces results which are user-friendly, making it easy to assess their value.

In each case, when the topic descriptions have been expanded and model choices discussed, how the relevant models score against these 12 criteria (which form the comparator in the feedback loop from the output from Step 2) is noted in Table 1 in the Appendix to Chapter 8. Weaknesses will be noted as potential limitations on the value of each approach.

<u>Verification - do the models meet the needs of the topics?</u>

The following questions can contribute to the assessment of the value of each model in its application context. Again, not all the questions will be relevant in all situations - a subjective judgement has to be made about which ones are particularly important. Between them, they contribute to the verification of the model - a check that it is the model which it was intended to build, to meet the needs of the particular problem situation. Using these 13 points to check the logic and relevance of the model to the needs of the topic, can resolve some of the limitations which might have remained after Step 3. Again, each model application will be checked against the points listed below - the comparator for the output from Step 3 - and some adjustments to the model may be required at this stage before the remaining analysis at Step 4; their 'score' is noted in Table 2 of the Appendix to Chapter 8.

1. Is the model relevant to the problem/ decision situation; for example, does it reflect aspects of structure, process or outcome, means and ends, causal relations?

2. Has each step in model-building been logical, and relevant?

3. Is the model at an appropriate level of detail for the purpose - including all important elements of the system, but not trying to incorporate everything? (It may be necessary to use several simple models, with an overall model integrating the sub-models).

4. Does the model incorporate information appropriate to the context - e.g. for effecting control, raising awareness, making decisions - and are the necessary information demands met - timely data, as accurate as necessary, reaching the analyst through clear 'channels'?

5. Are those providing data (and collecting it, if not the analyst) aware of the purpose of its collection, and sufficiently motivated and equipped to provide good quality data?

6. How far could the model cope with unpredictable internal and external changes?

7. Can the model reflect and respond to environmental influences adequately?

8. Does the model appropriately represent any hierarchical characteristics of the context? Generally here the models will be applied at a relatively high organisational hierarchical level. This can embrace more specific applications at lower levels. Where 'models contain models' and the same one is applied to different levels, this is recursion (as in the VSM): is this necessary, and feasible?

9. Is the model likely to produce results which it will be politically feasible to act upon in the context concerned?

10. Can the model cope adequately with conflicts of interest?

11. Are culturally acceptable types of results anticipated?

12. Can the model cope adequately with conflicts of value?

13. Can the results of the modelling be tested against observations known to be true?

A rigorous verification of the models would involve someone other than the analyst making an independent appraisal of their suitability in terms of criteria such as those above. While this will not be feasible in this instance, documentation of the modelling process will be retained in case an opportunity arises to take this approach further in future.

2.6.3 Step 4, analysis - completing the diagnosis.

The outputs from Step 3 for each topic will be: a description of the topic in its wider context, noting systemic aspects in particular; some suggestions as to the problems of concern here; and a systems methodology and associated model(s) which, we are confident, it is relevant and logical to apply in the analysis, design and explorations of implementation in Steps 4 to 8. The description will draw together information from a variety of primary and secondary sources relevant to the topic (not always collected from a systems perspective). The analysis will follow the format of the systems methodology in the case of the SSM and HSM; for the VSM and control loop it involves mapping the model onto aspects of the topic.

For each topic some appropriate questions are posed which help in the comparison between the real world activity of interest, and its simplified representation through the model(s). Examples of the specific systemic problem areas which have been highlighted in earlier references to the topics, are the focus for more detailed attention. There will be two sorts of output from Step 4 - these examples of the nature of performance evaluation failure, and suggested systemic reasons for these failings. The feedback loops from Step 4 will check that corroborative evidence has been given for the instances of failure, and that the model is valid - that is, an adequate representation of the phenomena of interest, for the purposes of the study.

Validity is tested very simply here, using a checklist of the same questions for each topic/ model combination. The validation questions and tests are set out in Table 2.3; the outcomes of applying the tests to the four model/topic combinations are set out in Table 3 of the Appendix to Chapter 8.

Table 2.3 Validation: conditions and tests.

Condition	Validity test
1. The problem situation is: a. highly value laden b. highly unclear c. changing rapidly d. highly complex.	Yes/no: if 'yes' to any of the questions, can the model reflect this adequately? Describe how. (Note: the initial model choice screened for these points too).
2. The model assumes internal and external (wider system or environmental) conditions similar enough to those in the real world situation to be 'realistic'.	a. identify key internal conditions b. identify key external conditions c. are a. and b. present in the model? d. if not, change to a different model, or e. adapt the model and test again, or f. justify retention of unchanged model.
3. a. In the light of the diagnosis so far, is the real world problem situation still suitable for a systems analysis (e.g. sufficiently complex, with interconnected elements)? b. if not, are any other systems models appropriate?	a. four part definition of system (see Chapter 1). b. unlikely to be; could consider critical or soft systems approach for further examination, or abandon topic.
4. a. Can the range of natural variability of key elements of the problem situation be identified? b. if so, can the model take account of this? (e.g. negative numerical values)	a. if 'yes', describe range. If 'no', is it invariable? Unlikely to be; look again; is the range significant? b. describe how the model will cope; if it can't cope, enhance model or change to a different one.
5. What timescale does the problem situation operate over?	The model must take any cyclical variations into account.
6. Is it valid to assume that any variables in the problematic system can usefully be quantified?	a. if 'yes', what are they? b. does the model include them? If not, should it? c. if 'no', is model appropriate?

2.6.4 Design and implementation - suggestions for change.

In Step 5 a creative search takes place, drawing on ideas from a range of disciplines if needed, in order to generate suggested changes to the performance evaluation activities of concern. These may be represented in particular by the focal problem areas identified for

each topic at the beginning of the analysis, but during Steps 1-4 some more important issues may have become apparent. It may be, too, that the model as originally chosen could be enhanced or altered in order to increase its power to generate suggestions for change. While the scope for any direct experimentation here has been limited, the ideas for changes can be discussed and examples from elsewhere with a bearing on them can be noted.

At this stage, some problems may appear to be intractable using the available approaches. If so, they will be shelved, and considered briefly in the final chapter. Otherwise the output from Step 5 - proposed changes to the performance evaluation system under study - will be tested for systemic desirability. That is, do the proposals take into account any knock-on or feedback effects, fit into the scope and assumptions of the model, and still meet the criteria outlined above, against which the output from Step 1 was tested? We may need to think again about the nature of the problem, or our explanations for it, and consider altering the suggested changes.

In any project, 'implementation' should not be isolated from the rest of the modelling process, but should be borne in mind throughout. It is a pity that implementation here will remain hypothetical at least for the time being, as there is a paucity of reports of the implementation of systems studies and this research could have provided some useful examples. However, we will have to content ourselves with speculation - would it be feasible and acceptable to introduce the proposed changes to performance evaluation systems in the contexts studied? Here we must bear in mind the objectives of modelling and limitations of the chosen model identified at Step 2, points noted in verifying the model, and so on.

Again there are two sorts of output from Step 6. From the description of ways to introduce feasible and acceptable changes to the performance evaluation system concerned, an attempt will be made (Step 7) to evaluate the prospects for the proposed changes in the light of real world experience and (if available) the views of experts in the field, obtained at first or second hand. Any new problems thus revealed may lead to adjustments to the recommended implementation plans.

The second output - a description of the use of, and any adaptations to, the model - will feed into Step 8, an evaluation of the application of that particular model. For example, data quality, the value of the checklists at earlier stages as predictors of modelling problems, the significance of any limitations identified at Step 2, will be noted. Recommendations on use of the model in this context will also be checked against experience in the field and the views of experts if possible, although finding comparable experience may be difficult. A

final list of questions against which to test the model as it has been applied, are set out below:

1. Does the model shed enough light on the problem areas identified for the topics to be worth the effort?

2. Does it shed light on the original key research questions and colloquial concerns, noted in Chapter 1?

3. Does the model include all elements of the system deemed to be important, and can omissions be justified logically?

4. Has it been possible to operate the model at an appropriate level of complexity, detail, and hierarchy? If not (thereby limiting the value of the outcome), could it be operated more effectively at other levels?

5. Has the model reflected accurately enough the internal and external factors which affect the system's output?

6. Has the model indicated in a definable way what would happen if one did something specific to the system of interest?

7. Are the conclusions logically and rationally derived from inputs to the modelling process, as opposed to unsubstantiated analyst bias?

<u>Making recommendations.</u>

Steps 9 and 10 of the analytical process are undertaken in the final chapter of this thesis. There we draw together the conclusions on each topic/ methodology application, as Step 9 summarises the recommendations from each and notes theoretical and empirical successes and failures. The prospects for more fruitful analysis of the four chosen topics using other systems models, and for the application of the overall approach to the four topics not chosen for the first set of analyses, will briefly be considered. Finally, in Step 10, a verdict on the value of taking systems approaches to the search for understanding of, and improvement to, performance evaluation in the NHS will be reached.

The ten steps outlined above suggest a lengthy process of analysis and evaluation, and Figure 2.13 illustrates graphically how they are connected. Inevitably, some steps will be undertaken more thoroughly than others, and some will be more productive. Others will prove to be superfluous or ill-conceived. The value of the approach lies not only in its outcome in the form of recommendations for change to NHS performance evaluation systems - indeed, they may prove to be relatively trivial. It is perhaps more significant to have attempted to apply systems models in what seems to be a potentially novel way, and

to have recorded the process of these applications as well as their outcomes. These are now placed in the arena where it is hoped that those from both the systems community and health policy and management sectors may examine them critically.

2.7 CONCLUSIONS TO CHAPTER 2.

Chapter 1 provided background material for the subject of concern - performance evaluation in the NHS - and Chapter 2 has set the scene for the analysis of some of its problematic elements. It is proposed that through the applications of systems models and methodologies to performance-related topics, some examples of 'failures' in the processes of evaluation may be discerned. They are likely to range from commonly-recognised problems (in controlling spending on acute services, for example) to under-achievement of potentially valuable processes (annual performance reviews). Further, it is expected that these apparent inadequacies in a range of activities designed to monitor, evaluate and improve performance will have systemic causes (such as positive feedback, failure to recognise significant interconnections, or inappropriate choice of output data for monitoring). They will also have other causes more closely related to 'politics' - internal organisational, professional or related to factors in the environment of the NHS. While we expect to find that the systems approaches can identify and explain some of the systemic causes and suggest ways to ameliorate them, we anticipate that some problems will be less amenable to diagnosis, design of improvements and ideas for implementation where the root causes are political.

In Chapter 3 we will return to the NHS context. We are interested in performance, and although wishing to avoid over-rational assumptions about a complex organisation like the health service, we need to know what it is trying to do. Some major health policies were outlined in Chapter 1, and in Chapter 3 we explore the objectives of the NHS in more depth. We will look both at the organisation's official goals, and the goals and objectives which some interested groups may seek for the NHS to pursue (as their employer, for example). It is important to see performance as multi-dimensional, and avoid focussing too narrowly on the most commonly-used dimensions such as efficiency. The fundamental goals of the NHS suggest that performance should be assessed on a wide range of dimensions in order that contributory objectives (and through them, goals) may be attained. It is to those goals and dimensions that we now turn.

CHAPTER 3. DIMENSIONS FOR EVALUATION

3.1 INTRODUCTION - APPROACHES TO EVALUATING HEALTH SERVICES

In this thesis it is assumed that even at times when the performance of the NHS is not regarded as particularly problematic there will be a need for various groups to monitor its performance. As part of the public sector, assessment will be required for the purposes of public accountability; and although health policies may change, management of health services at any level requires some form of monitoring and evaluation. Although ultimately such evaluative activity is directed towards the achievement of high-level organisational goals, there are many layers of means and ends. These link the performance of individuals into the contribution which their work group makes to their department, which in turn furthers the objectives of a hospital or community service in meeting the needs of patients - in accordance with wider NHS service objectives and goals.

In general, devising processes for monitoring performance and intervening to change it becomes more complex at higher levels of aggregation. In Chapter 3 the focus is at a relatively high level - the overall goals and objectives of the NHS and major stakeholders, some widely-applied evaluation activities and the dimensions or aspects of performance which they address. Although the concern at any one time may be predominantly with improving efficiency, for example, the pursuit of a range of objectives implies the need to develop a variety of performance measures and assessment systems with which to address different performance dimensions. We will examine the relationships between dimensions and objectives of the NHS (where they can be identified) and consider whether performance improvement in the NHS may be constrained by the comparative lack of clear objectives.

Holland (1983, p.8) defines the process of evaluation of health care as '... the formal determination of the effectiveness, efficiency, and acceptability of a planned intervention in achieving stated objectives.' Some problems of current NHS approaches reflect the use of data and dimensions unsuited to the purpose in hand. To search for a single 'best' indicator of performance is impracticable and meaningless; even the individual patient treatment can be assessed on several dimensions. Chapters 4, 5 and 6 take a more detailed look at the

operation of evaluation activities at lower NHS levels, while Chapter 7 again assumes a wider focus.

In Chapter 2 we noted that if we treat organisations as having their own goals and objectives, these may conflict with the objectives that interested groups may want the organisation to pursue. Perrow (1961, 1972) distinguishes between 'official' goals or objectives of organisations, and 'operative' goals or objectives. The latter tell us far more about the activities which the organisation will actually be engaged in, and indicate competing values and options which can follow from the same, more generalised, official goal. 'Official operative goals' will influence decisions between competing priorities, reflecting alternative values, and may come to be seen as ends in themselves. Official goals will constrain operative goals, however, as the pursuit of the latter depends on their plausibility in terms of the former. Such 'goal displacement' may be behind much of the frustration felt by consumers; their complaints may not result in satisfaction because they are based on expectations reflecting official goals, while the service they receive and which managers may feel it is reasonable to provide, reflect operative goals.

Perrow has also described less legitimated, 'unofficial operative goals', which may be hard to discern. These may have more significant, even worrying implications for controlling and changing performance, and for accountability. Economic and political interests will shape the ends pursued by individuals and groups. These may be considerably at odds with the official, legitimate(d) goals; their impact will reflect the power and influence of such groups in the organisational structure. They may be a force which inhibits, or promotes change. Concepts from systems can be employed to analyse the complex interplay and influence of goals pursued within subsytems, systems and their environments. Combined with the work of organisation theorists they may help us to understand more of the different sorts of rationality which shape organisational performance.

Exploring the links between objectives, performance dimensions, evaluation processes and the sorts of problems presented by our eight topics will enable us to be reasonably fair in our criticisms of existing practice in Chapters 4-7, and realistic about suggestions for change. To reduce the risk of perpetuating an over-rational, unitary or 'top-down' approach, which may appear to be reflected in some of the systems methodologies and models chosen, at points we will note some theoretical and empirical ideas from other disciplines which emphasise the less-than-totally rational aspects of the decision-making and evaluating behaviour of organisational actors.

3.2 HOW HAS THE NHS PURSUED ITS GOALS?

In Chapter 1, Section 1.2.3, we noted that the official goals of the NHS (in Perrow's terms) had remained true to the values of the Beveridge Report (Beveridge, 1942). Between 1976-9, the Royal Commission on the NHS undertook a fundamental reappraisal of the role and organisation of the NHS (discussed in Chapter 1, Section 1.3.3) and its final report included a re-statement of the goals of the NHS. It should:

- encourage and assist individuals to remain healthy;
- provide equality of entitlement to health services;
- provide a broad range of services of a high standard;
- provide equality of access to these services;
- provide a service free at the time of use;
- satisfy the reasonable expectations of its users;
- remain a national service responsive to local needs.

(Royal Commission on the NHS, 1979, p.9)

The members of the Commission were aware that some of these goals were imprecise, controversial or unattainable, but stated that that did not decrease their importance. They were intended as guiding principles, indicating the desired direction in which the NHS should progress and informing the activities of managers, parliament, ministers and the Health Departments. Some of them can be seen as constraints rather than goals - conditions which should not be violated, within which a wide range of contributory objectives may be pursued but which may (if adhered to) preclude some options. To use any of them as yardsticks for performance first requires the derivation of measurable objectives, and the examples of evaluation tools given below assume this refinement. A theme familiar from Chapter 1 was identified at an early stage in the Commission's work - that 'the hierarchy of objectives for the NHS has to be seen in a context wider than the provision simply of health services. Indeed some goals may be more effectively pursued by the provision of other services, for example housing, education, social work, perhaps even to the point where, to improve health, it is desirable to switch resources from health services to other sectors'. (Secretariat of the Royal Commission, 1980, p.25-6). To date there have been very few indications of this happening, even with the recent proposals for local government authorities to play a greater part in long-term community care; unsurprisingly, the central spending departments guard their resources jealously (Klein, 1983).

Unless otherwise stated, references in the following seven subsections are to the Report of the Royal Commission on the NHS (op cit). How have their goals for the NHS been pursued, and how has any progress been monitored and evaluated?

'The NHS should encourage and assist individuals to remain healthy'.

While stating 'The NHS needs to face its responsibilities in prevention', the Commission (Chapter 5) was at pains to illustrate the many areas of preventive health which were not its responsibility. However, the fairly bold statement was made that 'The curative and caring services make the essential contribution to the alleviation of suffering and always will, but we regret that more emphasis has not been placed ...on the preventive role of the NHS. This must change if there are to be substantial improvements in health in the future.'

A number of 'policy aims' for health promotion and preventive medicine were spelled out in the 1988 DHSS planning guidelines (DHSS 1988b), although few quantified objectives were included. While health promotion/ disease prevention has featured on annual review agendas for several years now, and health authorities have been given new responsibilities for 'public health' (DoH 1988a), the development and implementation at national and local level of 'Strategies for health' face a host of problems. The significant interplay between environmental influences, lifestyles and health status make it difficult to set performance objectives for planners, managers and health care professionals and ensure resources are used by those in most need. Interrelating causal factors are hard to measure or control. And new central policy initiatives in this area have been particularly prone to criticisms of being 'the flavour of the month', distorting local priorities while failing to provide resources to tackle proven health hazards like smoking, drinking and poverty.

Slightly ironically, the Royal Commission was at pains to point out the need to expand proven screening programmes, and to increase health education resources while spending some of the extra funds on 'developing more effective methods and on monitoring and validating existing and new techniques' (p.49); they also called for the compulsory wearing of front seat belts. The Commission's caution about effectiveness and validation appears to have been well placed, as the overall benefits in terms of health outcomes of seat belt legislation, breast and cervical cancer screening are still disputed.

The evolving NHS Performance Indicators (PIs), described in detail in Chapter 5, have begun to address preventive aspects of health care with the incorporation of indicators of avoidable mortality, and low birthweight. However, PIs for community services, the source of much preventive activity, are not yet available; overall the PIs remain of limited value as a monitoring tool for preventive care.

Thus the blanket goal of encouragement and assistance to remain healthy may be easy to address in a piecemeal fashion, but is proving harder to turn into a manageable local or national strategy and is currently very difficult to monitor or control.

'The NHS should provide equality of entitlement to health services.'

This objective has apparently been attained, with no restrictions on entitlement to service on the grounds of 'age, social class, sex, race or religion to all people living in the U.K.' (p.9-10) However, the extent to which the needs of all ages, classes and races are equally provided for in the first place is less easy to judge. By its very nature, something which is not provided because the need has not been articulated adequately, will be very hard to identify. However, requests for screening or preventive measures for several diseases which are largely confined to ethnic minority groups, such as sickle cell anaemia among people of Afro-Caribbean origins and vitamin D deficiency among Asians, have not been met with the positive responses which have applied to diseases of the white population (Radical Statistics Health Group 1987). Racial discrimination by individuals may override theoretical equality and leave some patients with the impression that they have no entitlement to service.

At present we can only compare health service utilisation or treatment intensity rates between health authorities or over time, without a definition of what a 'good' level of provision and take-up per population comprises; most planning norms are almost arbitrary. This is generally even more difficult to assess for preventive and community services than acute and hospital based care. Until an adequate database is available to indicate the use which communities, age and care groups could ideally be expected to make of services, it will be difficult to monitor the real achievement of this goal. But the potential is slowly growing, and if links are made between local health profiles and data to be collected in the 1991 census about racial origins, ill health, housing conditions and so on (and analysis is sophisticated enough) we may learn more about the extent to which people receive the services they are entitled to.

'The NHS should provide a broad range of services to a high standard.'

It was the Commission's view that 'This is perhaps the most difficult matter we have to discuss' (p.10) - which was perhaps not surprising. There is a difference between a service being of low standard in terms of technical quality, and simply being unavailable to all who wish to use it. Where there is a well-publicised national shortage of provision (e.g. renal services, drug rehabilitation, terminal care), the NHS appears to be failing in its 'breadth' of service, quite apart from standards. Approaches to the assessment of local need, and the use of input norms in planning, continue to change; and the 1989 NHS White Paper 'Working for Patients' has signalled the retreat from the aim of providing most services in every district. Already some services such as termination of pregnancy and treatment for infertility are often unavailable through the NHS. Central government interpretation of the goal of a 'broad range of services' will affect their judgement of local performance.

Two major areas of concern to the Commission were:

> a) 'Standards of cure and care within a given level of resources are in practice largely in the hands of the health professions' (p.10).

The responsibility for controlling clinical standards and committing the use of resources rests with clinical professions rather than managers, and yet it is the latter who have traditionally been called to account first for long waiting lists, complaints about poor communications, or overspent budgets. As we will see, in spite of significant developments since the Griffiths Report (DHSS, 1983) in clinical budgeting and audit, there are still areas of performance monitoring where data are collected from, and fed back to, those with very little power to affect practice.

> b) 'The aim must always be to raise standards in areas where there are deficiencies, but not at the expense of places where services are already good.' (p.10)

A range of potential 'equalisation' tools have been developed and used during the past decade - PIs, the RAWP formula for resource allocation, the waiting list initiative, for example. There remains the problem of defining a 'good' standard, be it in terms of clinical activity or outcomes, or provision of facilities. Comparison with other health care systems can be useful, but the economic and social context has also to be compared. Changing practice means that more is not necessarily better, especially in the context of finite resources. In assessing the adequacy of service standards, we need to look for the capacity in the organisation for organisational learning, reflection about desired standards and modes of provision, as well as explicit targets for quality and quantity.

<u>'The NHS should provide equality of access to these services.'</u>

Looking at this objective in the Commission's terms, their concern was primarily to improve geographical distribution of services such that basic services should be within reasonably equal reach of all users, with most specialties being distributed evenly throughout the country. Glaring inadequacies in distribution which persisted from pre-NHS times to the 1970s were beginning to be tackled by the RAWP formula. The Commission recommended its development to take account of morbidity and social deprivation factors, and to be applied in some way at a sub-regional level.

Issues of equal access (implicitly, for equal need) are mentioned in Section 3.3, and the effects of the RAWP formula and its fate were noted in Chapter 1. As we saw, equal access is not the same as equality of utilisation for equal need; the former goal provides merely that the opportunity is there. Mooney (1983) argues that equal utilisation will only follow from equal demand, or perception of the benefits of care (and see Le Grand, 1984); Tudor

Hart's 'inverse care law' (1971) proposes that measures aimed at further equalising access to care benefit those in least need. Data on patterns of usage of health services, as opposed to NHS activity, continue to be hard to obtain, and for this and other reasons, valid quantification of the role of the NHS in inequalities in health demonstrated by the Black Report (1980) is still very difficult. (Scrivens and Holland, 1983, Whitehead 1987).

A number of indicators of access to services are included in the current and forthcoming DHSS PIs, but at best they indicate how far expected demand is met (by comparing actual episodes of hospital care to the numbers expected for a district based on nationally standardised levels), not actual need. Standardisation rarely reflects the social characteristics of local populations in detail, for example, so PIs provide only limited guidance as to equity of access, for planners and performance assessors nationally and locally.

We can see waiting lists for NHS treatment as controls on access which reduce equality, as lists vary widely between authorities, consultants and specialties (Yates, 1987). The inequality is exacerbated as those who can afford to may buy private treatment, often with NHS consultants. The less articulate and well-off tend to be those left to deteriorate while they wait. We will look at waiting lists and times in a little more depth in Chapter 5.

<u>'The NHS should provide a service free at the time of use.'</u>

In the context of assessing access in Section 3.3, we consider the range of 'costs' which needed to be borne in mind in accepting the Commission's claim that the NHS has been able to 'free people from fear of being unable to afford treatment' (p.10). Even on the basis of direct costs, for many people the range of services for which charges are made now includes all their routine health care. It could be argued (by comparisons of charges and incomes, over time) that the NHS is moving away from achieving this objective. However, few conclusions will be drawn here, in the absence of relevant data.

The Commission was concerned that even the then current levels of charges for certain services could discourage or prevent some people from using them, and they recommended the gradual phasing out of all charges. Subsequently, these charges have been considerably increased. Economists suggest that the ceilings above which income from increased charges would be balanced by decreased use of services is very low. Those interested in and able to pay for private medical care, within or outside the NHS, have been found to be prepared to pay only a relatively low amount for it. Thus it could be said that the pursuit of this health service goal rests more with the political system than the practicalities of NHS performance measurement.

'The NHS should satisfy the reasonable expectations of its users.'

While deferring to the medical profession as technical experts, the Commission's views on this objective may still have seemed fairly radical - the patient will be a reliable judge as to whether he has been 'humanely treated', and 'options, when they exist, should be carefully explained and wherever feasible the choice of treatment left to the patient and his relatives' (p.11). Measuring the attainment of this goal is relatively complex, as expectations have to be elucidated and judged as to their reasonableness before performance is assessed. This raises issues of quality, acceptability and effectiveness, and the identification of the locus of responsibilities for change. Klein (1982) considers the ambiguities in this goal to illustrate an inevitable failure in the Royal Commission's attempt to combine 'market' and 'social equity' models of health care, settling for the latter, in which performance evaluation is a technical process of assessing progress towards agreed societal goals such as equity in which the providers will have the expertise.

Indicators of (dis)satisfaction with the quality of service are becoming more readily available with the development of 'customer awareness'. There is a need for wide public debate to establish a consensus about what it is reasonable for users of the NHS to expect, before performance targets can be refined. Changing social expectations of health care add to the complexities and uncertainties of planning and performance evaluation.

'The NHS should remain a national service responsive to local needs.'

While some services would always best be provided on a national or regional level, the Commission's view was '...if inflexibility is to be avoided, health authorities should implement national policy in the context of their particular geographical and demographic constraints' (p.12). Many of the subsequent structural changes in the NHS have followed from this stated objective, although the Commission's detailed recommendations were not implemented in full. The 1982 reorganisation, changes to the planning system, the development of nationally-coordinated NHS information systems, management advisory services and financial information systems, accountability reviews, and PIs - all had their roots in the sections of the Report following from this goal. Some of the complexities involved in assessing local needs have been mentioned above, and again the 1989 White Paper may place this goal in a new light.

We will look at these and other developments in later chapters, in the light of the criteria applied by those who developed and implemented them and from a range of other viewpoints, in order to assess their contribution to the attainment of NHS goals and objectives. But first, in the next section we take a more detailed look at the kinds of qualities of health services which evaluation addresses. Objectives such as those we have just considered, embody assumptions about the sort of society to which the organisation is designed to contribute. The dimensions of organisational performance which attract attention, reflect the values which those assumptions imply.

3.3 KEY DIMENSIONS OF NHS PERFORMANCE

This section will examine some dimensions or criteria by which the performance of health services may be assessed, and consider their limitations in terms of, for example, the requirements of 'good' data noted in Chapter 1. It will briefly explore the relationship between these dimensions and current evaluation practice in the NHS.

Figure 2.3 in Chapter 2 illustrated the links between the basic system components of structure, process and outcome. Figure 3.1 below indicates scope of the performance dimensions which we will be discussing in this section, to inform us about performance within these contexts.

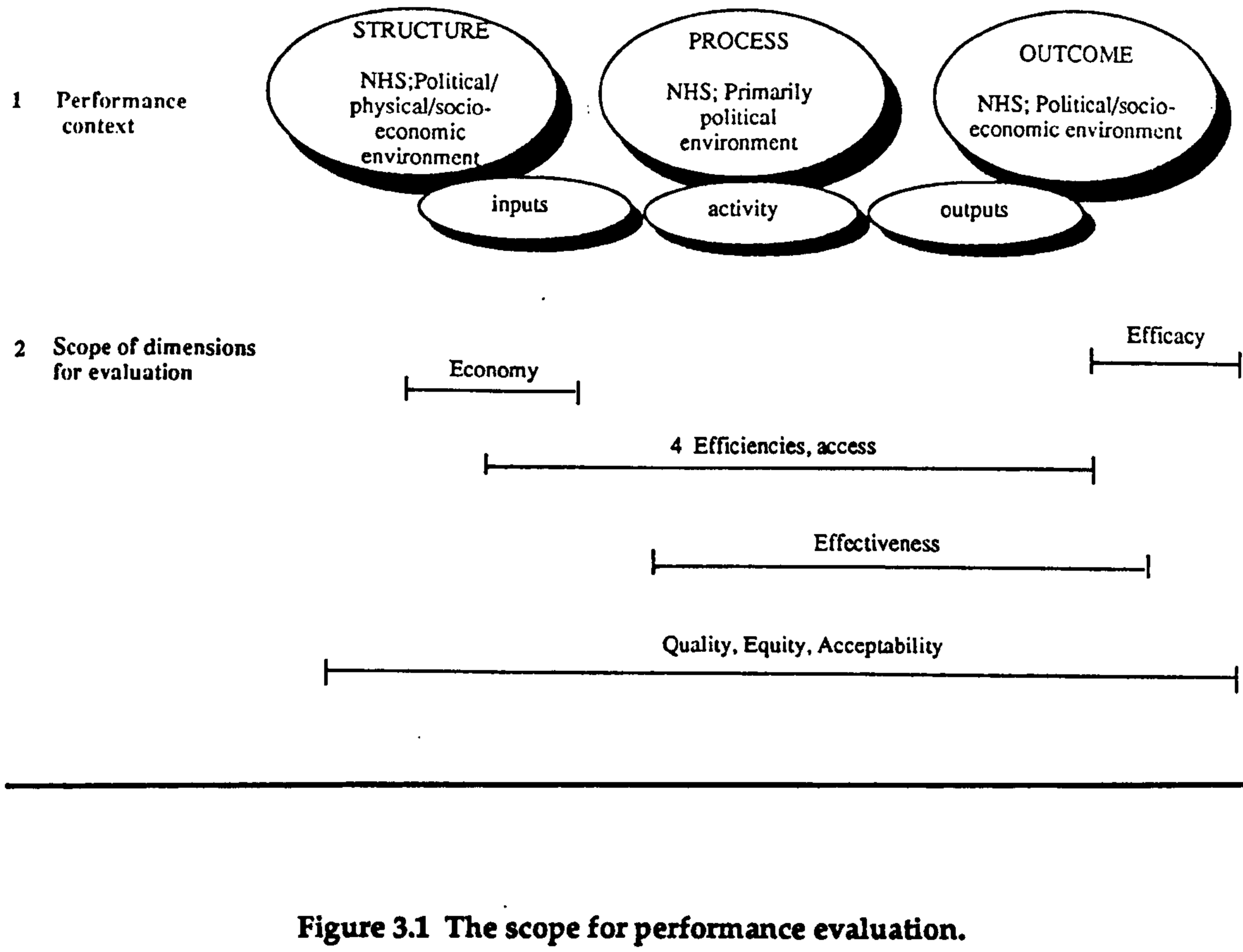


Figure 3.1 The scope for performance evaluation.

Economy

The focus of some of the 'Rayner type scrutinies' of the early 1980s has been primarily the search for the 'cheapest buy'. For example, following work sponsored by the DHSS in a number of health authorities to establish the cheapest means of recruitment advertising, all authorities were expected to seek similar reductions in costs. And through the substitution by hospital pharmacists of generic formulations for brand-name drugs, and encouragement to doctors to prescribe generically, the same medical effects should cost less.

Rather more controversially, while district health authorities were not required to judge competitive tenders for ancillary services solely on the grounds of price, many examples have been cited where a decision to accept a tender other than the cheapest (justified in terms of reputation, or overall value for money) was overruled by a higher authority in favour of the lowest tender. This has proved to be a false economy in a number of cases, and contracts have been terminated early or penalty clauses invoked.

There seems to be little merit in making judgements about the parsimony or profligacy of those committing resources to or within the NHS in isolation from the return obtained. On the other hand, from the measurement point of view, a focus on inputs and search to minimise their costs has its advantages. For example, comparative assessments of how economically a service can be provided will often involve direct monetary costs, removing the need to convert unlike inputs into a common form. Measures should be intrinsically timely and specific - 'how much is spent per month on sterile dressings? Could an external supplier provide the same goods at less cost than our Central Sterile Supplies Department?' Data may be readily available, reliable and accurate - but it may be aggregated so as to hide useful detail. However, the circumstances in which all stakeholders would agree that success in minimising input levels was an unambiguous indicator of desirable performance, are comparatively rare. More common and useful indicators are those relating to efficiency.

Efficiency

The economic concept of efficiency is more complex than the engineering usage. At its simplest, the assessment of efficiency of a conversion process refers to the ratio of inputs to outputs. Performance may be improved by maximising the output from a given quantity of input(s), or minimising the inputs required to produce a given output - assuming it is clear what 'desirable' performance comprises. Representing the avoidance of waste, evaluating health care provision in terms of efficiency commands all-party support, but interpretation and action in pursuit of it reflects differences in interests and values.

Brooks (1985) outlines the potential application of four different economic concepts of efficiency - allocative, distributive, dynamic and managerial. The Paretian ideal of a perfectly competitive market (the point at which any change to the pattern of consumption

will only make one individual better off by depriving another) is clearly unrealistic in the health care context. For example, the self-imposed constraints on entry to the medical profession illustrate Galbraith's diagnosis of producer sovereignty. However, the underlying implication of allocative efficiency is the maximisation of benefits to the whole of society, not just part of it.

Brooks sees cost-benefit analysis (CBA) as a tool with the potential to improve allocative efficiency at local level, although the removal of some allocative imperfections in the allocation of new resources may not guarantee an increase in overall welfare. In theory at least, CBA provides a means for comprehensive evaluation in common terms of the costs and benefits to a range of stakeholders, of options for providing a particular service. Nationally the question is whether resources devoted to health care would provide greater benefit if allocated elsewhere (and vice versa).

Distributive efficiency has two strands: the organisational and structural arrangements through which goods and services are supplied, and the equity of access to them in the light of one's view of distributive justice. In contrast to the philosophy underlying allocative efficiency, that 'the consumer knows best', distributive efficiency assumes the supremacy of the provider.

'Working for Patients' is the latest example of the UK governments' attempts to adjust organisational arrangements in the NHS towards greater distributive efficiency. This was also the main goal of the RAWP formula. In the context of the second strand, one of the founding aims of the NHS was equality of access to treatment for those in equal need. Interpretation of this aim is complex and partially subjective, but the Black Report (1980) and its 'successors' (Townsend and Davidson 1982, Townsend et al, 1986; Whitehead, 1987; Smith and Jacobson 1988) continue to suggest that poorer socio-economic groups in particular do not receive the level of health care resources to meet their needs.

Brooks found relatively little use of the concept of the third type, dynamic efficiency - the identification of the optimum rate of technological change - in the UK public sector. However, the need to assess the resource implications of expensive medical technologies is no longer denied, although the tools for the assessment are still relatively undeveloped. So too are the organisational power relations which would permit the multidisciplinary appraisal of relative needs for expensive new technologies in the face of high public expectations.

Managerial efficiency, Brooks' fourth category, is probably closest to colloquial usage. It involves comparisons between times, places or processes but usually within organisations, of input:output ratios. Unlike allocative efficiency where CBA may result in the abandonment of an activity, managerial efficiency may be assessed through cost-effectiveness analysis (CEA) to find the means of provision at least cost or maximum return.

CEA assumes that quantified objectives have been identified, and which can be reached by more than one route. The relative levels of effectiveness resulting from the different routes are compared in terms of their relative costs.

However, as the next subsection will show, assessing the effectiveness of clinical treatments and methods of service delivery is still comparatively rare in the NHS. Operationalising the measurement of outcomes, particularly long term, tends to be neglected in favour of the measurement of inputs or activities, which are seldom adequate proxy measures (not least because of our lack of understanding of causal relations in medicine). Costs not directly borne by the organisation concerned are often treated as 'free goods' and omitted from the equation - although they may end up at the patients' door. And CEA can still leave decision-makers with the task of choosing between treatments which have disparate benefits beyond those initially identified as objectives.

The comparative absence of disaggregated cost data has, until very recently, limited the routine quantification of efficiency in terms of activity and output, let alone outcomes of care in the NHS. The gradual development of management budgeting/ clinical budgeting/ resource management (refined versions of the same underlying policy) could be said to have come of age in 1989 with the dependence of many provisions of 'Working for Patients' upon ascertaining the costs of hospital and GP treatments. Considerable investment in IT and training will be made, to add to that spent on the resource management pilot sites and the cost of the (now partially redundant) Körner data collection systems. The aim is, ostensibly, better to compensate 'efficient' hospitals with high activity levels for treating non-local patients, thereby facilitating cross-boundary flows in a market including the NHS and private sector. The potential repercussions in terms of loss of choice for patients, and concentration of resources, suggests the domination of managerial and distributive over allocative interpretations of efficiency.

While process (ward, specialty or department) costing may be useful for policy makers, it is is less value to operational managers. With strong multidisciplinary commitment to the aims of such costing systems, and advances in IT, presumably data can be derived which is sufficiently sensitive, accurate, reliable and timely for the intended purpose. However, experience with classification systems like diagnosis related groups (DRGs) suggests that reasonable reliability requires considerable effort; and commitment cannot be assumed. Nor can we assume that managers, and budget-holding doctors, will behave as perfect rational economic actors. Both budgeting and accounting systems influence managerial efficiency by their effect on incentives.

The rationale behind much use of input and activity data in the drive to improve NHS efficiency, is the apparent presence of dramatic variations in resources committed by those in the same professions (by GPs prescribing drugs or referring patients to hospital, for instance). It is argued that if those committing less resources are not endangering patients'

lives, the others should be able to reduce their costs. However, this continues to be a flawed argument while we do not have full information about the severity of patients' conditions or other needs, lack a full assessment of the costs of their treatment (or non-treatment) including costs to patients, families and support services, and get only limited feedback about the outputs and outcomes of care. The introduction of practice budgets and limits to GPs' prescribing costs may reduce the direct costs of patient treatments, but may simply divert some costs, masking the allocative efficiency.

Brooks concludes that disagreement surrounds the meaning of 'efficiency'. For example, accountants and economists take quite different approaches, particularly with regard to social and opportunity costs, which are of limited interest to the accountant compared to their organisation's historic costs. The different philosophical bases to the four types of efficiency reinforce the value-laden nature of the choice of type to use in evaluating health services; this should be acknowledged. And the pursuit of efficiency has to involve all professionals, including epidemiologists and economists, as well as the public.

Efficacy and effectiveness

Probably the most often heard criticisms of the approaches to performance evaluation which have prevailed in the NHS to date, are that attention is focused on the costs rather than outcomes of care, and on quantity rather than quality. As we will see, these are not mutually exclusive; 'quality' has come to be described as multidimensional, and one commonly used dimension is the effectiveness of care delivered to individual patients. In later subsections we will look at some of the other dimensions of quality.

In a useful overview of approaches to effectiveness in health services performance, Long (1985) defines the concept as:

> ... a measure of the degree to which the objective(s) of a policy programme, treatment, pattern of care, or resource group has been achieved. The critical feature of such a definition is the explicit link of the objectives of the service or procedure to actual performance: that is the achievement of the objectives. (p.11)

Meaningful assessment of effectiveness - at the macro (service) or micro (procedure) level depends upon the rational processes of: establishing quantifiable objectives, finding relevant and useful indicators of progress towards those objectives, and understanding how to improve performance in the light of this assessment. (See, for example, Vuori, 1982; Holland, 1983). It also involves reflection on the appropriateness of the objectives in their social context. Identifying and collecting reliable and valid data, and obtaining commitment to the objectives and action to ensure their attainment, are as much of a problem as understanding the causal mechanisms involved.

Klein and Day (1985) argue that a focus on objectives defined in terms of outcomes, developing from the apparent central government concern with outputs rather than the past preoccupation with inputs, would be desirable. They suggest that this would 'leave individual health authorities free to decide on the best means in the light of local circumstances while ensuring that the government can hold them to account for achieving agreed, explicit and measurable aims'. The alternative will be the imposition of too much rigidity on the NHS.

We have already seen the potential for outcomes of care to be linked to managerial efficiency through the technique of cost-effectiveness analysis (CEA). However, while rigorous testing procedures are required before new medicines can be prescribed or sold, medical techniques and procedures are not subject to the same exploration of their effects. Still less are modes of care provision. This is not to say that untried treatments are launched on human guinea pigs, as much research on all aspects of care (from medicine to management) takes place and its results are widely disseminated. But there is still a comparative lack of knowledge about how and why many treatments work, the optimum combinations of drugs and therapies, the role of psychological and environmental factors and so on. The assessment of efficacy refers to the impact of a drug or treatment in ideal (experimental) conditions, so for all practical purposes our concern is with its effectiveness in practical application - 'a measure of the technical outcome of health services in medical, social and/or psychological terms' (Long and Harrison, 1985, p.2). This reflects Vuori's definition of effectiveness as '... the relation of the actual impact of a service or programme in an operating system to its full potential impact in an ideal situation' (1982, p.37).

Holland separates such 'population attributable effectiveness' from: 'population effectiveness' - the potential for a health service or medical treatment to improve the health of the population as a whole; 'attributable effectiveness' - the difference in outcome for a group exposed to one treatment compared to a group receiving another (or no) treatment; and 'relative effectiveness' - the ratio of the outcome experienced by individuals receiving treatment, to that of those not receiving it. For a useful summary of a range of methodological issues, see Long (1985, p. 40 et seq.). Scrivens and Holland (1983) are among those perceiving a recent change in the focus of concern, 'from equity in resource allocation, to equity in end results or outcomes of the health process. Equity in treatment and access has been replaced by a desire for equality in end-state. There is, therefore, a need to determine causes of end-states in order to design effective policies'.

These four aspects of effectiveness bring to the fore the underlying purpose of health services - to seek to improve peoples' health. We are also reminded that this embraces a range of perspectives on health needs, which in the case of producers and consumers may exhibit some stark contrasts. The lack of information about effectiveness is thrown into high relief when resources are scarce and competition is fierce, when medicine is faced with new challenges, and occasionally when individuals or groups of patients succeed in drawing

their concerns about aspects of clinical practice to the attention of a wider public. All three conditions have been present in the last few years.

Continuing pressure on NHS funding exerted by constrained supply and ever growing demand has led, as we will see, to increasing problems for health authorities seeking to develop priority preventive and longstay services such as cervical and breast cancer screening and community care for the elderly and mentally ill, while containing spending on other acute services. The resulting public involvement of senior clinicians in demonstrations in defence of their services was an important factor leading to the establishment in February 1988 of the Prime Minister's review of the NHS culminating in the 1989 White Paper. Such high levels of concern also brought renewed efforts on the part of health policy analysts and health economists to draw policy makers' attention to alternative approaches to the allocation of funds taking effectiveness criteria into account. For example, Alan Maynard's work (at York University's Centre for Health Economics) on quality adjusted life years - QALYs - derives a 'cost per QALY' for various procedures from their costs combined with the number of years of good quality life a patient may typically expect following the procedure. (See, for example, Maynard, 1987; Maynard and Bosanquet, 1986; Drummond, 1987; Carr-Hill, 1989).

Maynard's methodology has been criticised for its small sample size and reliance on limited subjective scales of quality of life, but the approach raises some important issues. First, he has consistently reminded us that rationing of health care currently occurs, overtly and subtly, but without being subject to public debate and accountability. Thus consultants who shout loudest may well retain the resources to carry out costly treatments with far less favourable prognoses than those of their less influential colleagues whose patients may also be less powerful. Tools such as QALYs and CEA can bring rationing into the public domain, and either reduce anomalies arising from the funding of relatively ineffective treatments, or enhance political pressure for changes in health policy.

This approach also reminds us of the comparative lack of valid data about effectiveness. Maynard was not able to turn to a national, or even local, database showing life-expectancy after different operations to patients of varying ages and severity of condition, with which to compare subjective assessments of quality of life. The necessary record linkage between GP, hospital, social services records and death certificates, for example, is simply not available in most districts. Until recently, hospital statistics were little improvement on those available to Florence Nightingale; they did not distinguish between patients discharged alive or dead, let alone re-admitted for the same condition. Data to be collected within the Körner minimum data set such as the 'hospital episode' system will be of some value here. But in general there is a paucity of the sort of comprehensive information about health states before, soon after and longer term in relation to particular treatments. Therefore it is extremely difficult to suggest routes to improved performance with any confidence - assuming that the effectiveness of care is in question. It will also make it

difficult for preventive services and those where care is more likely than cure, to compete for resources if their allocation is eventually more directly linked to assessments of outcome in an indescriminate way. We will consider some of these issues further in Chapter 7.

The second condition I suggested made attention to outcomes more likely, was at times of challenge to medical knowledge. The unexpected arrival of AIDS / HIV, a 'new' disease as yet rarely amenable to treatment, has provided a very public demonstration of the blind alleys, confusions and conflicts which accompany the search for medical knowledge. The progress which has been made in understanding the disease and its origins, and steps towards treatment if not cure, has actually been remarkable. But it has illustrated the fallibility of modern medicine, and the role which complementary medicine may be able to play in this and other conditions. Assessments of desirable health outcomes need to reflect such complexity and diversity.

The proliferating debates during 1988 and 1989 about food safety are a reminder of the need to take a holistic approach to health, in this case by considering a number of interconnected subsystems (such as food processing and farming ones) beyond the affected human and animal organisms. And socio-political rather than biological systems hold particular significance for the 'lifestyle' related health promotion issues such as smoking and alcohol consumption. None of these debates reduce the need for micro level, clinical or epidemiological effectiveness measures, but highlight their complex contexts.

The third factor which, it was suggested, could increase the demand for formal assessment of outcomes, was public pressure relating to aspects of medical care. This has emerged in several ways recently. The campaigns of consumers, unions and other pressure groups calling for more resources for the NHS, have often touched on the need for better targetting of those resources. Many charities raising funds for medical research stress the need for a better understanding of the mechanisms of the disease they are interested in, in order to improve treatment.

I implied above that measures of effectiveness and health outcome may become part of the tools of health service performance assessment. Parts of the medical profession have voluntarily embraced medical audit, as in the case of the confidential enquiries into perioperative and maternal deaths; 'Working for Patients' stands to give a considerable impetus to clinical audit (DoH 1989j); and the Royal Colleges of Physicians and Surgeons no longer give accreditation for training of junior doctors to hospitals without an adequate audit system. The inclusion of avoidable mortality indicators in the new set of Department of Health PIs has also been mentioned. Formidable but surmountable problems of data collection, analysis and the drawing of conclusions for action await the era of effectiveness analysis. In the light of the social, political and economic determinants of health, implementing significant change poses still greater challenges. Some of these issues will be explored in later chapters.

Equity

Assuming that the value system underlying the NHS is one of 'equity', this is still open to many interpretations. Faced with the fairly vague 'objectives' described in Section 3.2, it is not easy to define exactly what the NHS was trying to achieve, at its inception or in recent years. Mooney (1983) outlines seven possible definitions, each founded on different value systems, from 'equality of expenditure per capita' through 'equality of input for equal need', (which might most closely resemble the RAWP formula), to 'equality of health'; the latter is likely to demand very uneven distribution of resources, as inequalities in health arise independently of the NHS. Considerable variation in health status persists between socio-economic and racial groups, and geographical populations; and many of these dimensions are closely interrelated. We have also seen that the tools for assessing health status and its 'causes' are still comparatively unsophisticated and underused. However, we know that many factors outside the provision and effectiveness of health services come into play here and it is therefore in some senses reasonable to take a fairly narrow view of equity as a dimension of performance.

Nonetheless, the NHS has been criticised for its failure to provide a service to which all are, or perceive themselves to be, entitled. For example, the rationing of services mentioned above quite clearly ranks people according to non-clinical criteria. Patients may be assessed in terms of age, social status, behaviour or mental state when they are in a queue for a scarce service such as renal dialysis. While it is difficult to separate unjust discrimination from a realistic appraisal of capacity to benefit from a treatment of varying efficacy, judgements of the social worth of patients competing for proven treatments do influence the quality and quantity of care they receive. (See for example Tudor Hart, 1971).

It may become more difficult in years to come to judge whether it is the aim of equality of entitlement or access which is being underachieved. If the implementation of the 1989 White Paper results in large geographical areas being devoid of particular services except through the private sector, or if GPs and consultants 'purchase' services for their patients too distant for them to travel to, then the spirit of equal entitlement may be in jeopardy. The validity of a measure of entitlement which demonstrates that services are available to all in theory, but which masks their selective provision in practice, must be questioned.

Accessibility

The accessibility of NHS services is another multidimensional characteristic, but one which is rather more amenable to assessment and improvement than those previously discussed.

The most obvious dimension is the ability of potential patients to travel to and gain entry to health care facilities. The planning of such facilities is expected to take into account the distances and public transport services for the catchment population. However, as well as

the inadequacy of many public transport services today particularly in rural areas, and the reductions in non-emergency ambulance services, 'catchment populations' in the NHS are rather ill-defined. Most use of hospital services results from referral by general practitioners; and unlike schools and pupils, GPs may attract patients from a wide area. They may then refer patients to the consultant of their choice, who may not necessarily be within the district health authority of the patient's residence, especially if the required specialty is not provided in each district.

These cross-boundary flows will increase as the provisions of 'Working for Patients' are implemented. While the White Paper aims to resolve some of the funding problems caused to health authorities by such flows, the problems for patients in obtaining treatment within easy reach of their homes may be exacerbated. So too will the problems for planners; while significant imbalances in cross-boundary flows have hitherto been relatively predictable and near-equality of access could reasonably have been expected at least in theory, this will become far harder to plan. It will also become more difficult to set standards and monitor performance, as the criteria for patient referrals become a combination of distance, waiting time to appointment, and even the potential costs to be incurred depending on to whom the patient is referred. Thus the situation until now has been a problem for planners and GPs of optimising physical access, while apparently paying little regard to waiting time and cost. Poor performance on the latter two criteria has been relatively easy to identify but difficult to remedy in the context of traditional referral practices. How far market forces will assist planners, GPs and managers in optimising a multitude of objectives remains to be seen.

A compounding factor can be the physical difficulties experienced by elderly patients, those with restricted mobility or visual handicaps, parents with young children and pushchairs and so on, for whom travel to and within health service facilities can still be difficult despite increasing awareness of such problems. However, there is considerable potential for involving patients as well as staff in assessing their needs - using questionnaires, checklists, physical models and plans, and so on - and in setting short and longer term programmes for improvements.

Obtaining information from patients is not always a reliable or unambiguous way of setting standards for accessibility. Patients whose first language is not English may be unable to communicate their needs, and may not be aware of the services available. Elderly patients in particular may regard health service providers with undue deferrence, have low expectations or lack confidence in expressing their views; they may also be embarrassed, or lack the vocabulary to describe their symptoms. Assessing the accessibility of services for those with mental handicap or mental illness has its own complexities, although 'advocates' could play a role in helping these people to express their views on this and other aspects of the service they receive. Those providing training in communication skills for health care practitioners need to take these factors into account; there is evidence from research into medical training, and from 'customer satisfaction' surveys of considerable scope for

improvement. However, careful design of monitoring tools is required, with regard to sensitivity, reliability, validity and artefact explanations.

Although the NHS is still largely free at the time of use, and funded from general taxation, between 1979 and 1985 prescription charges rose as a result of government policy by 590% in real terms (Birch, 1986), and by 850% by 1989 (Labour Party News, October 1989). Fees were introduced for optical and dental inspections under the provisions of the 1988 Health and Medicines Act, and NHS spectacle lenses and frames are now available to very few people. Children, expectant mothers, the elderly and those on very low incomes are exempt from charges, as are those suffering from a very small number of the many incurable conditions for which constant medication is required. While part of the rationale for increasing prescription charges was the deterrence of unnecessary prescribing, Birch reported that while the number of prescriptions dispensed did decrease significantly with the increase in charges, it was psychotropic and antibiotic drugs rather than placebo types which were being dispensed less. This would suggest that cost does reduce access to treatment; and this effect may compound the health disadvantages for those already less likely to seek preventive care such as dental checkups. The government's view that those who can afford to pay should contribute to the cost of care (beyond that already contributed by taxation), may be seen to underestimate the complexity of the relationship between income and patterns of spending, which is compounded by factors such as education and socio-economic status.

Birch concludes that:

> While ability to pay is used as the criterion for both the distribution and financing of parts of the NHS then the objective of maximizing health status improvements will be compromised. If this objective is to be pursued then the distribution of health care must be based on the ability to benefit from health care. (Birch, 1986, p.156)

While data to demonstrate the effect of costs on accessibility of services will need to be collected at local level, the responsibility for improving performance here must be shared with the central policy makers. The indirect costs of ill health - such as travel to hospital, childcare expenses, loss of wages - may constrain access to health care for groups of patients in most need and who can least afford them. However, they are difficult to identify and compensate for.

Some poor performance on the 'access' dimension arises from forces beyond the control of the NHS. But access is clearly inadequate for many waiting a long time for treatment. There are many reasons why numbers on waiting lists or average waiting times are insensitive, unreliable, untimely, ambiguous and invalid indicators of performance (whether the dimension under consideration is access, equity, allocative or distributive efficiency or quality). Nonetheless they can be used - with care - as tools to monitor and improve the service to patients in some circumstances.

Quality

While the discussion of quality in the context of health service performance has been with us for many years, it would not be unreasonable to talk of an explosion of explicit evaluation activity since the early 1980s. We will consider the nature of NHS quality assessment and quality assurance in more detail in Chapter 6. Quality is generally considered to have many dimensions, and here we will look at the role of a few of them.

In an influential article in the British Medical Journal, Maxwell (1984) wrote:

> ... one of the worst aspects of recent intiatives by the Department of Health and Social Security is the persistently dreary emphasis on managerial efficiency, [in a colloquial sense rather than Brooks' use, above] to the neglect of any discussion about what the NHS is actually trying to achieve. It is essential that discussion about the quality and effectiveness of care be reintroduced into the centre of the debate as they are, in the end, the more important dimensions of NHS performance. In the harsh world in which we live the Treasury is simply not going to be impressed by anecdotal evidence about health care quality based on self assessment. There has to be objective evidence.

He separated six dimensions of quality, '... each requiring different measures and different assessment skills. ...

- access to services

- relevance to need (for the whole community)

- effectiveness (for individual patients)

- equity (fairness)

- social acceptability

- efficiency and economy'. (p.1471)

We have already considered the evaluation of performance in terms of most of these dimensions in their own right. Those which remain so far unconsidered are relevance to need, and social acceptability, both of which are open to a range of interpretations. Maxwell seems to see the former in terms of the mix of services and roles they play in the light of the community's health need experiences. The latter equates to what Donabedian (1980, pp. 4-5) terms the interpersonal domain and 'amenities'. Both writers stress the importance of distinguishing between interpersonal and technical domains of care, although the two are highly interconnected and their combination may hold the key to the quality of care.
Talking of a definable unit of care, such as the individual patient's treatment for an episode of illness, Donabedian describes the degree of technical quality as 'the extent to which the care provided is expected to achieve the most favorable balance of risks and benefits.'
'Goodness in the interpersonal process' involves social norms and values about interactions,

including those in particular situations; it also involves professional ethics, and the expectations of patients; and 'a valuation of the benefits and risks, no matter what their nature, must be shared at least by the patient in addition to the practitioner responsible for the care'.

Donabedian's work goes on to analyse the assessment of quality and setting of standards in depth, although his classification in terms of structure, process and outcome is only one among many now finding a place in the NHS at local level, as we shall see. Quality has been the subject of sustained debate since the Griffiths Report (DHSS 1983), which is a sure sign that there is something real happening, although not necessarily having the intended effect. Numerous ways of quantifying qualitative aspects of care have been found, particularly where an agreed need was identified. Problems of validity, reliability, sensitivity, ambiguity and availability of data have been legion. On the other hand, many NHS staff have become involved in research and analysis related to their own work and organisation in ways which were previously unknown, although clinicians have hitherto remained on the fringe of much quality assurance (QA) and customer relations activity. It may prove more complex to increase awareness of Donabedian's interpersonal domain, but it cannot be denied that significant change has taken place in the levels of awareness of many of his and Maxwell's dimensions, leading to action. Some examples will be analysed in Chapter 6.

Finally in this subsection we will note the key components of QA for patient care in hospitals categorised by Jennett (1988). He flags up the consumer (their needs, hopes and expectations), the context (environment and staff), the content of care (which should be appropriate and competent), and its consequences (the patient being cured, comforted or worse). One of his major interests, as a neurosurgeon, is the use and abuse of high technology medicine, and the need for technology assessment in the NHS. He argues that whilst we may not have enough data to define treatment as 'appropriate', we can identify that which is inappropriate. This includes treatment which is:

- unneccessary: the condition was not severe enough;

- unsuccessful: the condition was too bad;

- unsafe: there were too many complications;

- unkind: the treatment was deleterious to the patient's quality of life; and

- unwise: the treatment diverts resources from those with greater needs.

Muir Gray (1988) has summed up the nature of appropriate care (which he sees as a more useful concept than the overworked 'effectiveness') as the balance of benefit: risk: costs (to all concerned). These definitions bring us back to Maxwell's dimensions, embracing much of their spirit as well as the detail of their application in quality assessment.

As we will see, assessing the quality of NHS care is, perhaps more than any other dimension of performance, open to a wide range of interpretations and of concern to many different stakeholders. In the next section, we will start to explore some of the problems affecting current approaches to performance assessment, where different sets of objectives, and dimensions for evaluation, are brought together.

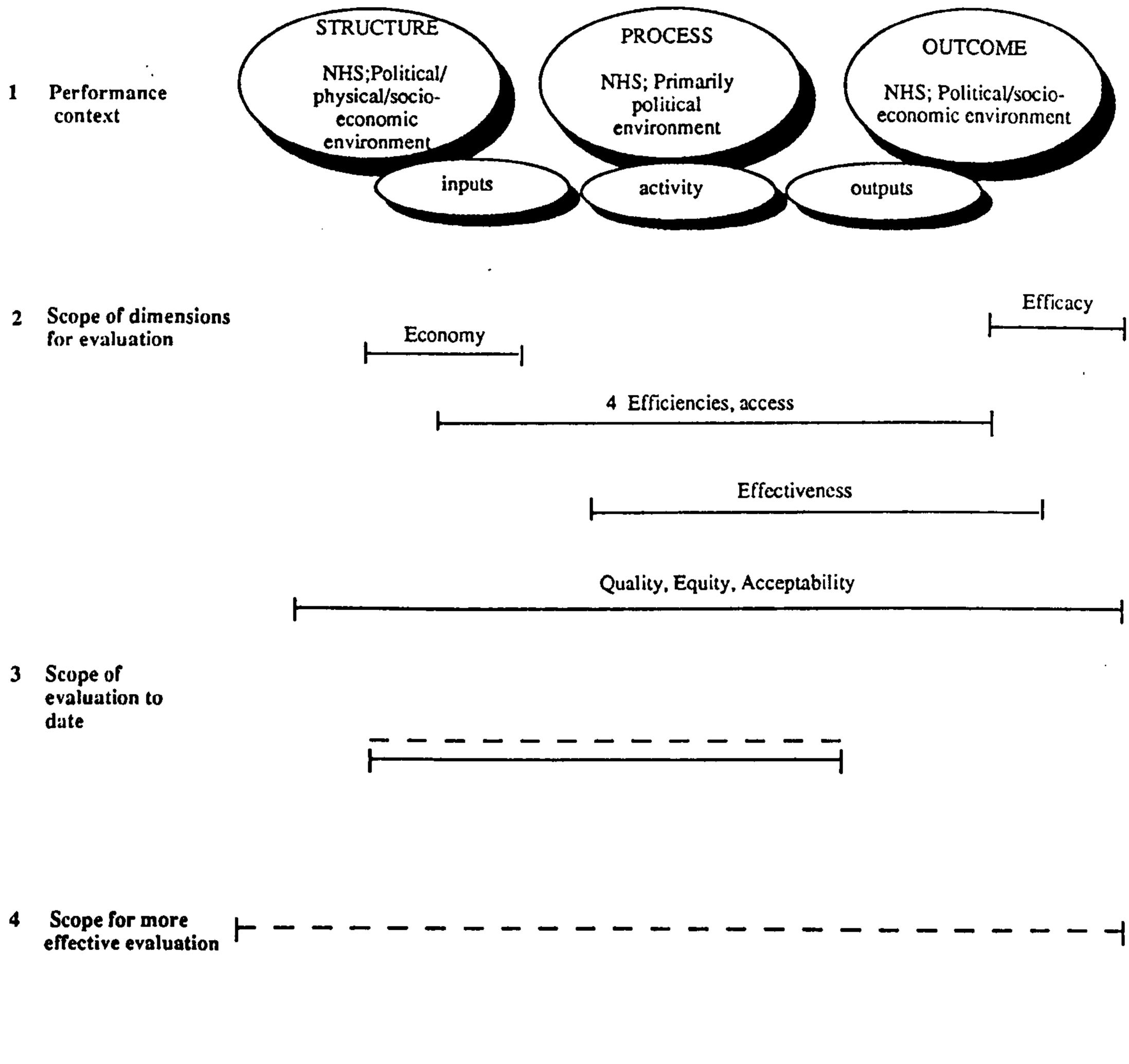
3.4 EVALUATION IN TERMS OF OBJECTIVES, STANDARDS AND CRITERIA.

3.4.1 Understanding the objectives for and of the NHS.

So far in this chapter, we have considered a range of dimensions on which the performance of health services could be assessed. Some examples of current NHS practice have been introduced, from which one may conclude that the interests and values of those undertaking the evaluation will influence the choice of dimension. This choice, and the outcome of the evaluation, will also be affected by the availability of viable measuring tools - encompassing the data itself, data collection mechanisms, analytical processes and indicators for action. The choice of dimension and tool should be made consciously in the light of the purpose of the evaluation.

This thesis has suggested that performance evaluation in the NHS is 'incomplete'. Drawing together the major system components and performance dimensions which have been introduced in Figures 2.3 and 3.1 (rows 1 and 2), Figure 3.2 indicates the relationship between them and the current and potential scope for evaluation. The disparity between the dimensions currently employed and those regarded as feasible and desirable to develop for use in assessment, is reflected in the differences between lines 3 and 4 on the diagram.

Figure 3.2 Dimensions for evaluation - current and potential scope.



We have seen that the general goals of the NHS have remained relatively constant since its inception, yet on occasion quite different interpretations of the goals, and of the progress of the NHS towards them through the implementation of policy, are proclaimed by politicians and other interest groups. Because the goals are relatively vague, there is scope for their translation into quite divergent objectives, reflecting many different interests and values. And because the NHS is in the public sector, funded largely from the exchequer, it is valid to consider the viewpoints of a range of interested parties when judging performance. Clearly this will affect the conclusions which are drawn about the success or failure of the NHS in terms of the dimensions described in earlier sections and chapters. This section will outline some of the significant perspectives which make the judgement of the performance of the NHS complex and relativistic.

Holloway and Carter (1990) have assessed the extent to which a number of theoretical accounts of the objectives of and in organisations (such as neoclassical economics, managerial and behavioural theories) are supported by empirical evidence. They explored the work of, for example, Cyert and March (1963), Perrow (op cit), Simon (1964, 1979) and Williamson (1974). Simon's concept of 'bounded rationality' is at the core of behavioural theories which contend that satisficing rather than optimising approaches are generally adopted, so that managers and other decision-makers can cope with multiple and often conflicting objectives. By converting some objectives into constraints or establishing an acceptable range for each objective, they arrive at courses of action which are 'good enough'. Through bargaining, the availability of 'organisational slack', and the simultaneous pursuit of several objectives to satisfactory levels of performance, managers and organisations survive despite often high levels of latent conflict over goals (Cyert and March, 1963).

Finding a lot of common ground between commercial and not-for-profit organisations (NFPs), Holloway and Carter conclude that empirical support, through the work of writers such as Mintzberg (1983), Goldsmith and Clutterbuck (1988) and Robinson (1987), is strongest for behavioural theories. However, the comparative lack of data leaves many questions unanswered especially in relation to the operation of power relations in and around organisations. Support for behavioural theories explicitly in relation to NFPs, came from Newman and Wallender (1983) and Eilon (1971). Harrison et al (1989) remarked upon the frustrating effect which tensions and power relations between NHS general managers and doctors still has when agreement on local policy objectives is sought.

Thus a range of theoretical and empirical ideas can help us to cope with the range of valid approaches to understanding and assessing health service performance. We need to look for:

- Measurable objectives logically derived from fundamental NHS goals (about which latter, we assume there to be broad consensus along the lines of the seven set out above):

  - for the NHS as a whole

  - for regions, districts, units

  - for groups or professions, for individual employees

- The views of different stakeholders as to:

  - what dimension should be used for each goal or objective (efficiency, effectiveness etc.)

  - what value, on an appropriate scale, should be aimed for

  - what magnitude and direction of change should be sought, over what time period.

We can also look to theoretical approaches to explain or predict how different stakeholders with a variety of presumed perspectives will judge the (relative or absolute) success or failure of the NHS. Their responses to such judgements will be reflected in their actions.

Here we cannot consider all NHS goals and the objectives of each different level or group, each type of explanation and resulting judgement. But in the next two subsections we will consider some of the most important likely combinations of the above factors to illustrate the scope for multiple and often conflicting interpretations and expectations of the performance of the NHS. We will identify some of the types of objectives currently considered to be important to different stakeholders, and their roles in efforts to change performance, and consider which are the more relevant dimensions of performance for each interest group. These will be borne in mind as we use systems models to explore the performance-related topics in Chapters 4-8.

3.4.2 Performance against objectives set for the service.

The 'systems map' of the NHS in Chapters 1 and 2, Figures 1.4 and 2.1, illustrated two major interested parties which exert crucial influences on the objectives pursued by the NHS, from outside its boundary. These are those exercising political control in the central (and to a small extent, local) government systems, and those providing the demand for services - patients. We look at some ways that their interests and values may shape the objectives of the NHS.

Those exercising political control.

A minor political influence has hitherto been exerted on the service at regional and district (and formerly area) level through the presence on health authorities of members of local government authorities. They have been able to represent the interests of local authority service providers, as well as their constituents, although in theory once members of a health authority, they are supposed to be non-partisan. Their presence on health authorities (HAs) has to a certain extent facilitated the implementation of joint planning schemes, and care in the community. However, their impending removal from health authorities may reflect central concern at their potential role in policy making, as well as a desire to clarify the role of HAs as management bodies. The roles and interests of such HA members could have included those of: an employer accountable for the actions of NHS employees; a political party member; an employer or worker in another organisation; a potential patient. With so many roles, the sort of theoretical explanations which could help us understand the objectives they may consider particularly important could include social responsibility explanations for interests in equity, access and distributive efficiency; or 'stakeholder' explanations for the pursuit by individuals and organisations of multiple and conflicting objectives. Managerial and behavioural explanations may be more useful for analysing the objectives of the proposed new HAs once 'Working for Patients' is implemented.

By far the stronger external political influence on NHS objectives is that of central government. Fortunately the roles of ministers and civil servants may be less multiple and complex than those of local HA members; constituency MPs may find their loyalties more divided where local and government interests conflict. The structural and accountability relationships between the NHS, government and Department of Health were noted in Chapter 1. Here we will focus on some assumed priorities of government in implementing policy.

The traditional philosophies underlying the Labour and Conservative parties would suggest an emphasis (both in making and implementing policies) on the dimensions of equity, access and distributive efficiency, and economy and allocative efficiency, respectively. Quality, acceptability and effectiveness, although open to different

interpretations, have been adopted by both parties as they have come into vogue in society more generally. We might find neoclassical economic explanations of some relevance in revealing the assumptions made by Conservative ministers about what structural and financial arrangements would best enhance NHS performance. This is exemplified by the provisions for NHS Hospital Trusts, and other market-oriented changes, in the 1989 White Paper. However, managerial approaches have been a strong theme since the 1983 Griffiths Report; the White Paper also includes some checks and balances on managerial power. Labour policies may assume managerial and social responsibility motivations; hence a tendency to debate (although not necessarily endorse - a reflection of internal differences of interests) elected health authorities with staff representation and support for constraints on the alcohol, tobacco and pharmaceutical industries.

More sophisticated policy advisers may take behavioural explanations into account in proposing a balance between central policy direction and managerial discretion. The behaviour of DoH civil servants, and their beliefs about NHS management, may exhibit the assumptions underlying both managerial and behavioural theories. Their approach to the annual review and in-year monitoring processes, and their advice to ministers, for example, may suggest both a suspicion of managerial self-interest and an appreciation of satisficing behaviour and accommodation of multiple goals.

Thus, it is suggested that in order to develop processes for improving the performance of the NHS, it can be helpful to identify the assumptions about organisational objectives which may underly policy decisions by those exercising political control over the NHS.

<u>The influence of those exercising demand for health care.</u>

The second 'group' exerting a crucial influence on the NHS from outside, is the general population who may at any time become its patients. While cynical observers may claim that the NHS runs for the benefit of its staff rather than patients, the recent conversion to regarding patients as 'consumers' reflects a wider change in the relationship between professionals, public services and users. The demand they exert generally owes little to voluntary choice to consume. However, as well as the option available to some to buy private health care, consumers may delay seeking medical help until they have tried self-medication, opt for 'alternative medicine', wait a while in case they get better, or simply ignore their symptoms altogether. Ill health and disablement are both experienced and perceived differently by different age groups, sexes and socioeconomic groups. Their options and chosen responses are similarly varied, and such factors may change over time as the public's expectations of health and health care change.

It is difficult to know what assumptions may characterise the consumers' views of NHS objectives. As taxpayers they are presumably concerned about efficiency and value for money, but given the vastness of the NHS budget find it difficult to relate even major

examples of wastage to the public sector borrowing requirement and the income tax rate. Effectiveness, acceptability and quality must be the most significant dimensions for the individual patient, but levels of knowledge and expectations will affect the standards seen to be desirable. The values and interests of individuals and groups of patients will be reflected in their concerns about equity and access to services.

Feedback from patients about their expectations and experiences of the NHS is increasingly being sought by health authorities and individual practitioners. As with public opinion polls, these tend to reveal relatively high levels of general satisfaction, and a view that the crucial need is for a readily available acute service. They also often reveal strong criticisms of specific aspects of the service such as waiting times and shabby surroundings. So it could be said that consumers have an (intuitive) appreciation of behavioural explanations of the prioritisation of objectives of complex organisations, where the NHS is concerned. The continued strong support for the ideal of an NHS pursuing Beveridge's and the Royal Commission's goals, suggests an underlying adoption of a social responsibility perspective - the NHS should be publicly funded and available for the benefit of the whole community, even if individuals can afford not to use it.

3.4.3 Performance against objectives set by the service.

We turn now to look at some of the configurations of objectives and performance dimensions to be found within the NHS. In Chapter 1 we noted that for employees, policy objectives may take second place to employment-related ones. We may distinguish between the values and interests of individuals and groups of staff derived from their roles and professions, and the objectives arrived at through processes of debate and negotiation in the context of planning, policy making and managing.

Judgements derived from professional values and organisational roles.

The introduction of general management in the NHS has been followed by a gradual extension of performance-related pay, and the explicit linking of individual managerial and strategic and operational objectives. Links between individual and organisational objectives have often been less explicit, however. The necessary change in organisational culture is proceeding, at times haltingly as central government has continued to introduce new policy objectives at short notice. The tensions in the changing managerial role of clinicians has been discussed by Scrivens (1988) and Ham and Hunter (1988), and Newman and Wallender (1983) note the additional element of complexity due to the division of loyalties which often exists for professionals in public services.

There is a need to recognise potential areas of conflict arising from the values and assumptions underlying the training of doctors and other health professionals, those with

an administrative background, and those who will be more directly involved in setting local objectives as members health authorities. This need may be even stronger once 'Working for Patients' is implemented.

Some of the values of the medical model of health care were described in Chapter 1, and we might expect clinicians traditionally to take an optimising approach to their own professional work, using their skill and judgement to pursue the best outcome for the individual patient. The key dimension on which they measured their own performance and expected to be judged, would have been effectiveness. They may not have been concerned with the potentially conflicting demands of acceptability to patients and to their peers. Ultimately their performance is judged in terms of their professional objectives and standards, beyond control of those who manage their working environment. They may have, subconsciously perhaps, felt that an objective of the NHS was the perpetuation of the comparatively high status and remuneration of doctors. They certainly have not in the past had to juggle with the competing needs of their patients, and other demands on budgets as they will in future.

Thus for clinicians the objectives which the NHS should pursue, and the dimensions on which its performance could be assessed, may have been relatively straightforward in the past. The future may hold some changes, bringing additional dimensions to the fore, common to those of concern to general managers. Here we would expect to find the accommodation of multiple and competing objectives characteristic of behavioural explanations of managerial practice. Managers and planners at each level in the NHS will contribute to a greater or lesser extent to the setting of local service objectives. None of the overriding NHS goals can be ignored by senior managers, although they may be more or less problematic. Similarly, each of the dimensions of performance described in Section 3.3 above should be of concern. However, as we will see, attention is disproportionately paid to monitoring efficiency, both by managers and by those assessing them. Perhaps we should also consider the applicability of managerial explanations of the focus of managerial effort - do general managers pursue organisational growth and increased control at the expense of public (equivalent to shareholder) interests? The enthusiastic response of the Institute of Health Services Management and some NHS general managers to the 1989 White Paper may suggest this.

It may be argued that nursing staff, and ancillaries, have blatantly pursued self-interested objectives at various times in the recent past, taking strike action (albeit limited and after much agonising) as part of campaigns over pay, conditions and grading. On the other hand, both the public and the nursing profession themselves may see nurses as the embodiment of the spirit of the NHS, selflessly pursuing its goals. This may lead to conflicting perceptions of the objectives of nursing as a profession, from a rewarding career with a role in medicine in its own right, to that of the doctor's servant or (young, female) ministering 'angel'. The status of the profession is growing with general management,

changes in training, and the anticipated severe recruitment and retention problems. However, large numbers of more junior and auxiliary nurses (together with ancillary staff) have fallen victim to an underlying ambivalence within the NHS towards some of its goals. Some examples were mentioned in Chapter 1, Section 1.2.3.

In a research paper, the secretariat to the Royal Commission on the NHS identified a sub-objective of those listed in its final report - that 'the NHS should be a good employer'. The Commission's report extols the virtues of NHS staff, and the research paper stated: 'The maintenance of a high level of morale and job-satisfaction, and the satisfaction of legitimate staff ambitions is an important means to the end of providing service of a high quality. Implicit in this objective is good industrial relations.' (Royal Commission, 1976). However, this was preceded by the statement that 'Although we hope that such conflicts [between the interests of patients, and those working in the NHS] will be rare, we take it as axiomatic that if they arise the needs of patients must be paramount.' (para. 7).

The prevailing low wages and relatively unsafe working conditions endured by more junior or unskilled NHS employees suggests that this 'sub-objective' has not been pursued either by more powerful groups within, or political interests outside the NHS as consistently as the major goals. The public service equivalent of profit maximising motivations for the continued use of relatively cheap labour, and low investment in training, could be seen behind the perpetuation of this situation; the employees' response could indicate an underlying 'social responsibility' motivation - or simply that of the weaker players in a managerial game. (See, for example, Parston 1980).

<u>Judgements related to planning, policy making and managing.</u>

Under this heading we are concerned with a diverse group of stakeholders who play roles firmly within the boundaries of the NHS, although they may do so by virtue of a position held outside it. I am thinking here of the members of health authorities and Community Health Councils (CHCs) whose appointment derives from individual skills, or involvement in local voluntary or professional health-related activities. Again assuming a broad endorsement of the overriding goals of the NHS, the objectives which such members may accord priority when taking policy decisions may nonetheless reflect individual or role-related values and interests. For example, the district health authority will commonly include medical professionals, those actively involved in the voluntary sector who may reject (to some extent) the medical model of health, and local employers. Health authority chairpersons potentially have considerably more influence than other members. Although their powers are in practice limited by their knowledge, the agenda before them, and statutory obligations, health authorities do make policy decisions (and see Ham, 1986). In approving or amending plans and budgets prepared by officers, they will both individually and collectively bring their perceptions of the authority's purpose to bear. They also play a

monitoring role, and their preferences (again individually and collectively) will influence the performance dimensions accorded more importance. Behavioural and stakeholder explanations may illuminate their decisions.

The 1989 White Paper 'Working for Patients' (HMSO, 1989) addresses in some detail the implications of the multiple roles and interests represented on the current health authorities. It proposes the reform of these bodies towards a clear managerial role. The representational role is to be removed. Whether this will create a 'countervailing power' situation in the authority's relation to the management board remains to be seen; behavioural explanations may illuminate the juggling of conflicting objectives which the new authorities may increasingly share with managers. Both groups will have time-limited contracts or positions, so long term and strategic objectives may lose out to short term objectives.

CHCs will continue to represent consumers' interests, insofar as they can at present. They have relatively constrained access to 'the consumers', either directly or through their staff. Again the membership of CHCs is diverse, but may be characterised more by the collectivist approach to health mentioned by Ham (1985), than by acceptance of the medical model. As such we may expect the priorities of CHCs in judging performance, to highlight the dimensions of effectiveness, acceptability, quality, access and equity. We might also find social responsibility accounts of value in interpreting both their attitudes to the NHS, and to their own work. However, there have been few studies to test this out.

This subsection has indicated the range of values and interests which can influence the identification of and priority given to goals and objectives, and the dimensions on which performance is assessed. The contribution of a number of theoretical explanations in analysing this complex situation has been suggested. Section 3.5 returns to the links between goals and objectives and NHS performance evaluation.

3.5 THE CASE FOR CHANGE IN NHS PERFORMANCE EVALUATION.

This chapter has discussed a number of related aspects of performance evaluation in the NHS. We have seen:

- What general goals the NHS is supposed, 'officially', to be pursuing. We noted the apparent gaps in clear contributory objectives for the service or its decision-makers; in spite of the major changes in the nature of NHS management, the introduction of individual and organisational performance reviews and the frequency with which commentators remark on this lack of objectives, even the innovations proposed in the 1989 White Paper are about means rather than ends. (See Best, 1989, and Mitchell, 1989) However, we identified some of the objectives which we could assume were valued and pursued by important groups of stakeholders.

- How some theories - such as Perrow's distinction between official, operative, and unofficial operative goals, and notions of satisficing behaviour and bounded rationality - can help explain the accommodation between multiple, competing and often conflicting, objectives held by such groups. This makes management and service provision possible.

- The dimensions of performance which some current activities are addressing, which indirectly reflect the values of those setting targets or designing performance evaluation systems. Also, practical problems intrinsic to evaluating performance on some of these dimensions.

- How these dimensions are located in relation to basic system components of structure, process and outcome. We suggested that conceptual problems arise when objectives are couched in broad 'outcome' terms, and the measures used in performance assessment are in terms of input or process or narrow outputs; hence the dissatisfaction expressed by many observers seeing health service performance being evaluated in terms of, for example, economy or efficiency, when this is not serving the perceived or stated objectives.

In Chapters 1 and 2 we talked about the way in which systems ideas could be used to 'improve' this complex area, and outlined the way in which a number of methodologies had been selected for this task. This is clearly a grand claim, and already we have drafted in a number of powerful concepts from 'elsewhere' to try to make the messy problems more tractable. In so doing, we may have, implicitly at least, recognised some limitations on the potential role of currently-available systems tools to tackle aspects of the problems.

The mix of values and interests involved in the establishment of more or less quantifiable objectives suggest that performance evaluation can never be value-neutral, even if there is consensus between different groups of actors at different times. The judgement of interested groups about the performance of the NHS - aspects over which they may or may not exert influence - is what 'the performance of the NHS' is all about. In spite of Royal Commissions and White Papers, it does not have an objective reality of its own, but rather a subjective meaning emerging from the perceptions and beliefs of all those concerned. Klein (1982) stresses the complexities involved - not only in terms of the description of 'end-states', or 'health', but also in terms of the 'uncertainty of the relationship between inputs and outputs'. To Klein, once causal relationships are established, decisions on policies must be a political matter. Describing the scope for developing measures of health outcome, West (1984) would agree; acting to equalise outcomes will entail diverting resources away from specific groups, and without the political will to do this, the development of such measures is of little value.

Shortly we will return to the list of performance-related topics, and recall that at this stage some appear more amenable to systems analysis than others. Topic 4 exemplifies an area fundamental to the assessment of the performance of the NHS, i.e. the establishment of priorities for its activities. In such cases, where values, interests, and power relations are of central importance, a focus on the technicalities of quantified performance control will clearly be misplaced, but even including the developing fields of critical systems thinking and soft systems methodology the powers of systems approaches may be inadequate.

One of the devices used to match topics to methodologies was the matrix in Figure 3.3.

Relative uncertainty over consequences (cause and effect).	Relative uncertainty over objectives for action.	
	Low	High
Low	1. Computation (answers)	3. Bargaining (ammunition)
High	2. Judgement (learning)	4. Inspiration (rationalisation)

Figure 3.3 Uncertainty, decision-making and the role of information systems. (After Hopwood, 1980).

Drawing on the work of Thompson and Tuden (1959; and see also Thompson, 1967, and Earl and Hopwood, 1980) the matrix was developed from studies of the organisational contexts in which budgeting systems and (more generally) control and management information systems operate. Hopwood describes the impact of such contexts on the uses made of these systems, and their consequences. The matrix reflects the ranges of uncertainty which we, together with Klein and others, consider to characterise the context in which health service decisions are taken and their effects are evaluated.

The contents of boxes 1 - 4 describe the characteristic decision-making processes and orientation of information systems (in parentheses) most appropriate in the circumstances configured by the axes. Hopwood suggests that the relationship between information and decision-making in many organisations does not match this 'ideal', with consequent dysfunctional effects on organisational performance and even survival. A narrow, technical focus on bureaucratic information processing dominates; an alternative, dynamic, process view would enhance organisational learning and assist managers in coping with uncertainty. Further, the tendency to assume unrealistically high degrees of consensus and certainty over cause and effect has its origins in the political power relations between groups within organisations.

It is not difficult to find examples of NHS performance evaluation processes which seem to assume inappropriate levels of certainty; examples will be given in Chapters 4-7. An initial assessment of the eight topics suggested that while appropriate forms of decision-making

would fall into more than one cell, the present approaches only met around half of these needs. In other words, while there is a lot of suitable assessment going on, there are also some misdirected activities and inappropriate assumptions, and considerable missed opportunities. Just as Jackson suggested that systems approaches could be chosen in the light of their appropriateness to the certain characteristics of the problem-context (see Section 2.5), we can identify some approaches which are particularly suited for the four cells of the matrix of Figure 3.3. By assessing the sort of problem each topic represented in terms of any mismatch between the sort of decision-making which was taking place and the most suitable approach for its context, we can check that a suitable systems approach is considered.

The hard and soft systems methodologies seem suitable for situations located in cells 1 and 4 respectively. Cells 2 and 3 are harder to generalise about, and if a diagonal line is drawn from the top right to bottom left hand corners of the matrix, relatively harder approaches would be more suitable for the upper segments of these cells, and softer ones for the lower segments. In the scoring of methodology/ model choices, the emerging favourite methodology was compared with the type of situation in terms of cell 1-4 and a score of -1, 0 or +1 given; in the waiting list example, the suggestion of the causal loop and system dynamics approach attracted a score of 0.

We will return to this matrix when assessing the outcomes of the analysis of four of the eight topics in the table below. We will close Chapter 3 by noting the performance dimensions of most significance in the case of each topic in Table 3.1, before turning to a description of the NHS planning system and application of the hard systems methodology to Topic 1.

Table 3.1 Dimensions of performance related to topics.

Performance-related topic.	Significant dimensions of performance.
1. Making and implementing strategic plans	economy, allocative and managerial efficiency, equity, access
2. Controlling performance through structure and process	managerial, allocative, distributive? efficiency, economy, quality, acceptability
3. Improving quality of care	effectiveness, quality, acceptability
4. Assessing performance through outcomes of care	effectiveness, quality, equity, access
5. Planning for uncertainty and complexity	effectiveness, efficiency - dynamic and others?, equity, access
6. Politics of health	efficiency - all 4, conflicting; equity, access, effectiveness, quality, acceptability.
7. Reducing waiting lists and times	equity, access, quality, allocative efficiency
8. Planning for health	effectiveness, allocative and distributive efficiency, equity, access

CHAPTER 4. NHS PLANNING - THE REALISATION OF GOALS?

4.1 PLANNING AND PERFORMANCE PROBLEMS

4.1.1 Introduction

Chapter 4 presents the first application of a systems model to a performance-related topic. If the broad aims of the NHS discussed in Chapter 3 are to be attained, formal strategic planning should be a means of identifying routes towards them. The NHS planning system operating since the mid 1970s has followed a rational comprehensive model, comprising long term plans made at regional and local level implemented through short term programmes which enable national and local policy objectives to be planned in detail. However, implementation of a number of important national policies has met serious unanticipated obstacles and current concerns about pressures on resources reflect in part their diversion from their intended use. Failure to implement plans may be a less public aspect of health service performance than, say, waiting lists, but it is a fundamental part of the rational view of organisations which sees them as acting in pursuit of hierarchically-ordered goals and objectives in a controlled way. Links between the NHS planning and performance review systems are examined to see how far these can and do enable progress towards desired objectives to be monitored and controlled.

This chapter adopts a rational perspective in examining how successful the NHS is at making and implementing strategic plans. In the rest of this section, some problem areas are introduced together with the initially-favoured choice of methodology - the hard systems methodology (HSM) - which will be applied using the ten-step analytical process introduced in Chapter 2 (Figure 2.13). Section 2 describes the planning system as part of Step 2 of the process, and considers the contribution of theories about planning to understanding NHS planning. In Section 3 some refinements to the methodology are introduced. Sections 4-8 present Steps 4-8 of the analysis, where some specific examples of planning problems are addressed and improvements suggested. The last two steps of the

analytical process are set out in Chapter 8 for each of the topic/ methodology combinations, drawing conclusions about their potential value for identifying identifying and reducing shortcomings in performance evaluation.

4.1.2 Data used to analyse the NHS planning system

Much of the analysis which follows has drawn on material collected from regional health authorities through the questionnaires about the annual review process, described in Chapter 5. As well as strategic plans for the 1983/4-1993/4 period for eight regions, this primary data included annual review action plans and reports which indicated the sorts of difficulties which regions and districts were experiencing with short term and strategic planning from 1985-8.

Following the selection of two regions and four districts for more detailed attention, further materials were collected, mostly during or after interviews. These included: district strategies; regional and district short term programmes (STPs) and guidance for their production, from the DHSS and locally produced; STP out-turn reports (i.e. reports from districts to regions and from regions to the DHSS, on the extent to which the targets in the short term programme were attained); papers from health authority meetings, and other information related to monitoring and performance. Interviews with all of the selected districts and regions covered matters relating to planning such as the technical process (including the ways in which progress towards strategic targets was modelled and assessed), local approaches to problems, the role of health authority members, concerns about the effectiveness of planning, and some of the negotiations between different levels.

A number of civil servants from different parts of the DHSS including Regional Liaison and the planning branch (now integrated with Regional Liaison) were interviewed about the planning and review processes, especially new and proposed developments and links with policy making. Circulars giving guidance to health authorities about planning and resource allocation, and work being undertaken within the Directorate of Planning to develop a national corporate strategy for the NHS, were discussed with staff in the Department. The DHSS Operational Research Service (ORS) provided information about the role of quantitative modelling in the analysis of regional strategies, in policy making and to support planning in regions and districts for example, through the 'Balance of Care' model (Bowen and Forte, 1987).

Secondary materials such as journal and conference papers, planning texts, workshop and training materials were also studied, to obtain a broad picture of current planning issues and practice.

4.1.3 Step 1 of the analytical process. Initial choice of model and topic

According to the Office of Health Economics, 'It is arguable that the new [1974] planning system was the most significant element in the reorganised NHS structure. It provided the means by which the service was to define its goals and translate them into being. It was also intended to make the concept of monitoring performance in the health service a workable reality.' (Office of Health Economics, 1984.) In Section 2 some key aspects of the planning system are described, and the links between short and long-term planning, performance reviews and in-year monitoring as they are operated at the DoH, regional, district and unit levels are illustrated in Table 4.1 at the beginning of Section 2. References will be made to that table during this chapter, and also in Chapter 5.

Several problematic themes emerged in the analysis of the NHS planning system which are introduced here, indicating ways in which the system does not operate as effectively as the rational comprehensive planning model upon which it was based (Lee and Mills, 1982) would suggest it should. These are:

- the need to find appropriate techniques, to combine rational and quantitative planning with organisational and behavioural complexity;
- major data requirements especially for monitoring the implementation of plans;
- strong environmental influences and control problems;
- integrating plans for different timescales and levels.

Examples of the location of these sorts of problem are indicated on Table 4.1 with a '?' in a circle; attention will be concentrated on them in later sections in order to provide a focus for the study.

An appropriate systems model would enable comparisons to be made with NHS planning practice (and theories about planning), perhaps as a vehicle to experiment with alternative configurations with the aim of identifying and testing changes to the planning system which could improve performance thereby enabling the NHS to operate a formal corporate planning system more effectively. The links suggested above of planning with goals, performance measures and routes to those goals in a rational way suggests that an appropriate initial choice of model would be the Open University's hard systems methodology (HSM).

The use of the HSM has evolved in several directions. For our current purposes we will use a recent OU presentation of the HSM, and map onto it phases which will be identified in each application of a systems methodology or model - diagnosis (embracing description and analysis), design and implementation (Figure 4.1). (This will make it easier to compare it with alternative methodologies.) If the resemblance between the HSM and NHS planning system is not purely superficial, a detailed comparison may provide insights into the operation and design of both 'methodologies' and the models they employ. (Parallels may be drawn with the approach of Tomlinson and Dyson, 1983, who assess the contribution which OR and systems analysis can make to strategic planning.)

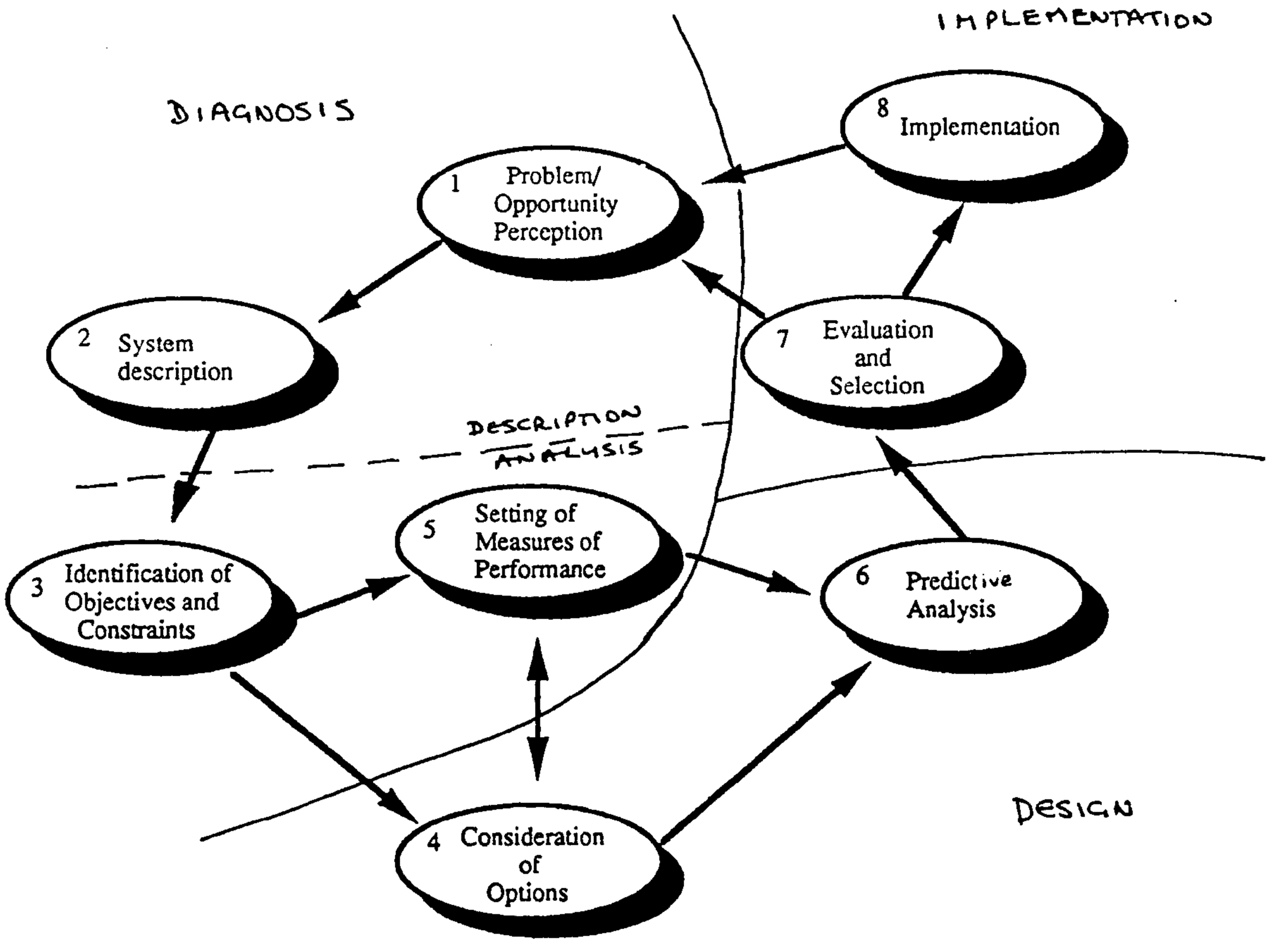


Figure 4.1 The Hard Systems methodology - diagnosis, design and implementation.

Some adaptations to the HSM will be introduced to enhance its suitability as a 'blueprint' for a strategic planning system which will be used here, to see how the prospects for the implementation of current plans could have been improved and suggest lessons for the next strategic planning round. Groups in and outside the NHS - including managers, clinical

professionals, other staff, representatives of patients, local politicians - will have different views about the desirable characteristics of planning arrangements. Their views can be influential as most plans require at least token approval from a range of bodies formally consulted (on Table 4.1, 'C' in a box indicates where consultation is required). If the planning process appears to have significant weaknesses their approval of, or commitment to the plans themselves will be reduced. So while the analysis and redesign here are undertaken with the assumption that the basic nature of planning and role of planners remains unchanged (a relatively top-down process controlled by 'experts' although sometimes involving multidisciplinary teams), some suggested changes will recognise the importance of the diversity of interests in plans and planning.

The ten-step analytical process sets out a 'feedback check' from Step 1, a number of questions to ensure that the initial choice of methodology was sufficiently promising before embarking on the more time-consuming Step 2. A point arising from this initial review is that one condition on the list - capacity to accommodate a range of viewpoints - is perhaps not so well catered for in conventional uses of the HSM than would be the case with the soft systems methodology or Espejo's use of the viable system model. The more considered choice of the HSM as an appropriate methodology for each topic involved posing a number of questions about possible combinations of methodology, context and analyst, to produce a score (usually a range) indicating promising combinations; this was described in Section 2.6.2 of Chapter 2. The result in this case was a score ranging from 2-5, but the following points emerged during the process of choice which may be relevant at later stages.

- Some problems initially presented with the NHS planning system were related to disputed priorities, wide-ranging implications of some decisions, high degrees of interconnectedness, and some uncertainties about how to define the problems experienced with planning - 'messy' problems (in the terms suggested by Watson and Watson, 1986). While there is explicit agreement about the need for planning to bridge some specific gaps, there are many occasions where a satisficing rather than optimising solution may be suitable, suggesting a need for care in the use of the HSM.

- While the design of planning systems for the NHS needs to recognise the importance of many qualitative dimensions, there are also many areas where quantitative modelling and evaluation are essential.

- in terms of Hopwood's matrix (Chapter 3, Figure 3.3), at this early stage in the analysis it seems that generally NHS planning operates under conditions of relatively high uncertainty over objectives, although the clarity of objectives seems to vary between places. A reasonably high level of certainty over cause and effect (Box 3) can sometimes be assumed, although at times the context resembles either Box 2 or Box 4, suitable for decisions by judgement or inspiration respectively. However, some of the symptoms of problems in plan implementation suggest that too often the context is treated as one with high certainty on both dimensions (Box 1), or inappropriately as Box 2. Thus a need for compromise and inspiration in decision making is subsumed by an expectation that judgement and computation will suffice.

These points suggest that a full exploration of health service planning could usefully involve a 'softer' methodology or model combined with specific hard techniques (control theory and the like), the application initially of the HSM to Topic 1 has the advantage of a strong resemblance to the more unitary and functionalist assumptions of conventional planning models. There are a number of pointers as to the suitability of a hard approach to this topic, although with enough caveats to suggest that this approach should not be applied uncritically. Hard approaches are conventionally suited to clear cut, computable situations, but the 'softer' elements of our HSM may be of considerable importance in identifying concealed, messy problems.

Before identifying some specific examples of recent problems with planning identified from the primary data, the nature and role of the NHS planning system is described in the next section, as part of Step 2 of the analytical process.

4.2. THE NHS PLANNING SYSTEM

4.2.1 Evolution of the planning system

Prior to the major reorganisation of administration of the NHS in 1974, planning had been primarily concerned with capital developments, mostly in the hospital sector (for example, the 1962 Hospital Plan for England). In 1976, the NHS Planning System was introduced and brought to the health service a rational comprehensive planning model, a product of the growing planning function within the DHSS. The system (described in detail in the 'Guide to planning in the National Health Service', DHSS 1976c) aimed to reduce geographic inequalities in service provision, while enabling the service to respond to changing health needs and new medical techniques. It was complemented by policy developments discussed in Chapter 1 - the Resource Allocation Working Party, the government's 'Priorities for Health' document (DHSS 1976a), and the adoption in the DHSS of 'programme budgets' for care groups. The main programme areas for the hospital anc community health services (HCHS) were general acute hospital services, maternity services, services used mainly by the elderly, the mentally handicapped and mentally ill people, and community services.

However, the response from regional health authorities who were charged with the main responsibility for planning was uneven, some undertaking little activity. The annual planning guidelines from 1977 to 1981 tended to state government policies and left priority setting for local decision. Consequently the desired shift towards the 'Cinderella services' - the mentally handicapped and ill, the elderly, and community and primary care services - did not materialise. Constraints on acute activity and spending were inadequate, and spending on those with a mental illness or handicap actually fell slightly (Ham, 1985, p.131).

'Patients First' (DHSS 1979), the government's consultative paper following the Royal Commission's report, announced that while planning was to be retained following reorganisation, the system would be simplified. Outlined in a consultative circular (DHSS 1981b), the new system was announced in the DHSS circular HC(82)6 (DHSS 1982a) designed to reflect the relationship between planning and the new NHS structure and management arrangements. This also contained the first steps towards the annual review process, initially conceived as reviews of planning progress but (by the time of the substantive circular) developed into the more wide-ranging review system described in Chapter 5.

The planning system adopted in 1976 was based on the American Planning, Programming, Budgeting System (PPBS), amended to reflect some perceived shortcomings. Programme budgets for care groups were first used for the Department's internal planning, to assess the

current and future costs of policies and the compatibility of national policies and local plans; and (in theory at least) inform comparisons of cost-effectiveness.

Since the 1982 changes, the DHSS/ DoH has continued to pursue a rational, programme budget-based approach. Developments in health service information systems and many of the post-Griffiths managerial changes have perpetuated the rational (if not fully comprehensive) model at district and regional levels and for short and long term planning, although the care groups for planning are not coterminous with classifications used in the NHS information system. However, from the NHS management board through to units there has been a discernible increase in explicit recognition of the uncertain, value-laden and political environment in which planning occurs, and the implications for the role and methods of planning. When examining the theoretical bases for planning systems, as we will in Section 4.3, such changes have a bearing on the selection of normative models of planning from among those available (and see Lee and Mills 1982, and Bowman and Asch 1987).

4.2.2 Roles in NHS planning

During the rest of Chapter 4, and also in Chapter 5, references will be made to Table 4.1, which illustrates some of the important relationships between NHS strategic and short term planning, the annual review process and in-year performance monitoring - set out in rows 1, 2, 3 and 4 respectively. The roles of central government politicians, DHSS/ DoH civil servants and the NHS management board, regions, districts and units are indicated in the columns A-E. This table is intended to be used for reference, to enable the more detailed analysis which follows to be placed in its wider NHS and temporal context. The position illustrated is that which pertained through most of the period from 1984-8, although (as it suggests) there were some significant changes during that time which Table 4.1 attempts to reflect.

1. STRATEGIC PLANNING. TEN YEAR PLANS, REVISED EVERY FIVE YEARS.

A	B	C	D	E
Central govt. politicians.	DoH civil servants/ NHSMB directorates	Regional health authorities	District health authorities	Units
[Development of NHS corporate plan] [?]	Inputs from Policy Group, NHSP, RL, Finance division.	Produce strategy for regionally-managed services ⟷ [C]	Prepare district strategy integrating →	Contribute to district strategy →
[Policies = direction, not quantified	DoH issues: →	Issue outline strategy →	- service - finance - manpower supply and training - capital [?]	- manpower - activity - finance - cost improvement programmes (CIPs) - planned developments
Objectives = acceptable pace of movement in required direction, quantifiable]	- strategic planning guidelines - [statement of policy objectives] - resource guidance (mainly financial, rarely manpower)	[C] ⟷	← Submit strategy to region for approval ⟷ [C] [?]	
Approve regional strategies ←	RL discusses strategies with regions if necessary [?]	Prepare regional strategy based on [negotiated] district strategies ⟷ [C]		
	- strategies submitted to minister for approval ←	Submit strategy to DoH for approval		
	[development of Körner minimum data set for future planning requirements]			

2. OPERATIONAL PLANNING. TWO YEAR ROLLING PROGRAMME (STP) (IMPLEMENT PLANNED YEAR 1 UNLESS MAJOR CHANGES; CONSULT ON YEAR 2).

Central govt. politicians.	DoH civil servants / NHSMB	Regional health authorities	District health authorities	Units
Social Services Committee - annual discussion of expenditure plans, Public Accounts Committee discussions		Assess resources available to other regions and organisations	Assess resources available to other districts and organisations [?]	Provide bids for development for forward plan - staff, new medical posts - revenue - capital - expensive medical equipment - benefits to patients - quality? - MAF
		Prepare STP for regionally managed services ⟷ [C]	Prepare STP for district managed services, estate	
PESC process →	RAWP capital and revenue allocations Joint planning allocations →	Allocate cap. and rev. resources to districts, [invite bids for special central funds] [may be outside planning cycle]	Submit bids for central funds, including new consultant posts ←	
Policy changes [?] →	Issue STP guidelines - resources - special funds - CIP requirements - other policy requirements - Region-specific objectives →	Issue guidelines to districts →	Issue guidelines to units →	
	←	Compile and submit STP - [integrated planning statement (IPS)] narrative - [zero-based management accounting framework (MAF)]	Compile and submit STP and MAF to region ⟷ [C] [?] →	Implement [adjusted] operational plan
		TO 4↓	- plans which further regional objectives - quality? - [outline plan, then full IPS]	
		Feed in summary of District STP changes		
Ministers' aims →	Prepare for annual review meetings - pace of implementation - key service changes ←	End of year out-turn report (OTR) ←	End of year out-turn report (OTR) ←	
		NHS information [Körner data] ←	NHS information [Körner data]	[?] NHS information [Körner data]
	←	[Planning data set reconciliation - under development, will feed into MAF]		

3. THE ANNUAL REVIEW PROCESS.

Central govt. politicians.	DoH civil servants / NHSMB	Regional health authorities	District health authorities	Units
Current policy	RL and NHSP organise review meetings:	Account for - in-year control - STP out-turn - policy implementation	← Account for achieving operational targets	← Formal unit review meetings (or informal review processes): - service developments - capital schemes - CIPs - manpower, training - quality? - I&E out-turn - [income generation]
	Performance review/ [management meeting] - views of functional directors - PIs - income and expenditure (I&E) reports - OTR - [health index] ←	Account for strategic progress ←	Account for strategic plan implementation [targets/ pathways/ planning agreements/ coherence models - some developed by region for district [?] ←	
Ministers' special interests →	Ministerial review: - focus on key areas for region	Seek explanations for - PIs - STP OTR - I&E control - implementation of policy initiatives, etc. ←	Account for performance	
Govt. policy changes [?] →	Review implementation of central initiatives		Negotiate over interpretation/ implementation of action plans ←	
Routine and ad hoc parliamentary concern ←	Account via Minister to parliament	Assess implications for long term plan implementation	New inputs to short term planning process [?]	
			Review unit performance →	
Set IPR targets and review individual performance → [IPR]	← Set targets - organisational - individual (IPR)	[IPR] ←	Senior managers' targets - review performance (IPR) → [IPR]	← Senior managers' targets - review performance (IPR)
	TO 1+2 [Assess health needs of population]		[Annual reports on - public health - PIs] → [PUBLIC]	
			[Assess health needs of population] [TO 1+2]	
			[?]	

4. IN-YEAR PERFORMANCE MONITORING AND ADJUSTMENTS.

Central govt. politicians.	DoH civil servants / NHSMB	Regional health authorities	District health authorities [?]	Units
Routine and ad hoc reports demanded ←	Assess I&E control; monitor use of special funds; monitor service development and policy implementation.	← Quarterly I&E monitoring reports - variances from plan/ IPS (revenue) - action taken or planned - anticipated effects	← [Quarterly I&E reports - second quarter most useful]	← (Monthly) I&E reports
	Report to ministers	← Reports on initiatives	← Reports on initiatives	← Routine reports
		← Out-turn forecast - revenue - capital - joint finance spending - manpower	← Routine reports ← Manpower targets	← Use of manpower
[?] [TO 2]			Administers non-recurring savings →	Non-recurring savings made/ spen
Policy change or 'steer' →	New priorities, demands, resources →	[Readiness to meet in-year pressures - assess - report on] ←	[Readiness to meet in-year pressures - assess - report on] [?] ←	Some local monitoring processes (e.g. ARP - see Chapter 5)
			NHS information [Körner data] ←	NHS information [Körner data]

Key:
- [ ] = innovations since last strategic planning round
- C = involves consultation
- [?] = contributing to problem areas discussed in text

Table 4.1 The relationship between strategic and short term planning, the annual review system and in-year performance monitoring in the NHS, 1984-1988.

In Chapter 1, a number of major areas of government health policy were described. Their implementation depends first on the civil servants in the Department of Health (DoH, or Department of Health and Social Security until 1988), who disseminate instructions, guidance and resources to the NHS on behalf of ministers and, in recent years, the NHS Management Board. The two left-hand columns in Table 4.1 indicate some of the links between the government, DoH and NHS responsibilities for planning and monitoring policy implementation.

Reports of the parliamentary Social Services Committee and Public Accounts Committee are important factors in the Public Expenditure Survey Committee (PESC) negotiations over the annual allocation of funds to departments. (This is indicated in row 2, column A of Table 4.1.) A number of questions to the health department from the social services committee about the implementation of plans (mostly short term) and provision and use of resources to the NHS are raised, and generally answered, in the annual memorandum on Public Expenditure on Health Matters (Social Services Committee 1988, 1989). The initiation of new policies generally depends on ministers winning the approval of the treasury for the estimated expenditure involved, a test of the relative strength of ministers as well as of the strategic and political importance of their policies. The PESC reports to the cabinet on these negotiations and outstanding disagreements, and the annual public expenditure White Paper sets out projected spending for several years hence as agreed in cabinet. Reports of the effectiveness of the previous years' use of resources (short term programme 'out-turn reports') are fed into the the PESC process together with RHAs' forward plans, having first been analysed by civil servants from various parts of the DoH, and can influence the prospects of ministerial bids for additional resources.

In spite of the general reduction in numbers of civil servants during the 1980s, before its split in 1988 the DHSS employed 1288 civil servants on NHS management and policy issues, of which 63 concentrated on planning and information technology (source: Hansard, written answer 22 June 1988, column 574). Column B of Table 4.1 indicates the roles which civil servants and NHSMB play as intermediaries between the health service and government in the making of policy and plans and monitoring of implementation.

The roles of regional health authorities in long and short term planning are indicated in rows 1 and 2, column C, of Table 4.1. Planning for regionally-managed services and internal organisation is separate from the regional role in the plans for district-run services. Since 1982 DHAs have been the basic planning units, but the regional role has been wider than just that of necessary intermediary between the health department and 190 districts. Regions allocate resources, manage major capital developments, co-ordinate medical manpower planning, set some parameters and priorities, and draw together the plans of all their districts - checking for compatibility with each other and with regional and national priorities. They have also, to a varying extent, sought to assess the current and projected

progress of districts towards strategic objectives and to prescribe action or require explanations intended to correct divergences.

The latest regional strategic plans (RSPs) cover the 1983/4 - 93/4 period, and were due for revision in 1988 which was suspended primarily because of the Prime Minister's Review of the NHS. However, at least until 1988, work had been taking place especially at regional and DHSS level to improve the planning process. While programme budgets underpin central planning and have been adopted (although with local variations) by many regions, the variety of approaches to dividing up services increases at district level. The lack of consistency between the broad care groups, national and regional priority groupings, data under both pre- and post-Körner NHS information systems and, most importantly, the characteristics of patients' needs, have added to the complexity of large-scale rational planning. Regions have been contributing to discussions of how to improve the relevance and practical value of the programme budget approach, including a proposal for a standard computerised 'planning data set' to enhance the integration and assessment of programme budgets, the management accounting framework (described in Chapter 5), the contribution of short term plans to strategic objectives, comparisons between regions, and national aggregation of plan inputs and service outputs (DHSS, 1988i).

An important aspect of formal planning is its links to control, and regions act on the DoH's behalf in assessing the contribution which districts' short term plans (STPs) make to their own, and the region's, strategic objectives. Short term programmes since 1982 have comprised an operational plan for the forthcoming financial year (April - March, plans usually being finalised in the winter), and a forward programme for following year or occasionally two years on which the public and other interested parties are consulted. Regional STPs comprise aggregated and reconciled district plans, plus plans for regionally managed services; as the letter ['C'] on the diagram indicates, consultation on regional STPs primarily involves the latter. In 1988, in an effort to bring short term planning activity and the issuing of guidance more realistically into line with the PESC process, resource allocation and the financial year, the DoH introduced a revised four-stage process. Described in circular HC(88)43 (DHSS, 1988b) it consists of:

1. DoH discussions with regions to establish region-specific priority objectives, which form the basis of regional guidelines to districts for their plans;

2. the production (in the spring) of outline STPs by regions and districts concentrating on key objectives;

3. the production later in the year of a full 'integrated planning statement' (IPS) by regions and districts, using the Management Accounting Framework (MAF, described in Chapter 5) to reconcile planned activity, spending and manpower levels, taking account of finalised local financial allocations and to be used for monitoring service development and policy implementation against the outturn;

4. the production of an outturn report, assessing plan implementation, at the end of the planning year.

Much planning activity at the district level parallels that at region: advising units of available financial and staff resources, priorities and expected needs; seeking their views and intentions about service developments, bids for equipment and staff, training needs and so on. As with the region/ district relationship, some districts do more than others on behalf of units in terms of planning and monitoring progress and performance, but planning skills in many units have become stronger in many districts since the introduction of general management.

The last strategic planning round (planning for 1983/4-1993/4) was region and district-dominated, although some districts were already developing locality planning approaches especially for community services, which necessitates devolution to the lowest possible level as plans are made for small geographic areas. Joint care planning, between health and local authority services and voluntary organisations, is another largely district-level activity. DHA members sit on Joint Consultative Committees (JCCs), and district officers participate in, and may organise, Joint Care Planning Teams (JCPTs) which put joint plans into operation. Planning links between Family Practitioner Committees and DHAs are generally limited to commenting on each other's plans, which for FPCs have been rudimentary until recently although their planning responsibilities are changing (Allsop and May, 1986, p.131).

4.2.3 Policy aims and service objectives

Since the 'Cinderella' services were given priority status, the number of 'priorities' has increased with the inclusion of a number of acute procedures, cancer screening, waiting list and other central initiatives. Some have been introduced at short notice, requiring bids to be produced hastily for additional funds, which can distort the planning process. Innovations such as a set of internal DHSS 'groundrules' for formulating policy for the hospital and community health services devised in 1987 have been designed to encourage DoH civil servants and ministers to explore the knock-on effects before introducing policy changes.

A wider exploration of the strengths and weaknesses of the planning system came about through the work undertaken by the NHS management board directorates (for the supervisory board) towards a corporate plan to the NHS in England, based on regional strategies. While not made public, a report issued for internal DHSS use in 1986 influenced a number of subsequent developments. (This will be referred to as the corporate strategy.) The systematic quantitative analysis of RSPs at the heart of the corporate strategy was an innovation in itself. It sought to establish to what extent the financial and human resources were likely to be available for plan implementation, and whether the plans would produce services in accordance with government policies, such as set out in 'Care in Action' (DHSS 1981a). Some worrying conclusions were reached: styles and standards of plans varied because of imprecise planning guidelines, so aggregation to obtain a national picture was difficult; plans for many services had not assessed need, or the required resource combinations, nor established how to monitor effectiveness; plans generally lacked quantitative data, and had not adequately assessed the likely availability of trained staff. While plans were generally in accord with government policies, these weaknesses were contributing to difficulties in their implementation, leaving those working on the strategy with serious doubts about the viability of plans especially for priority services. Such problem areas were being taken into account as the DHSS (in conjunction with senior NHS managers) drew up arrangements for a new strategic process and sought to improve both planning and organisational effectiveness.

A number of significant developments in NHS planning and management arrangements can be related to the work undertaken for the corporate strategy, including:

- the setting of management agenda for the DHSS, especially the NHSMB, and for RGMs in terms of immediate priorities and tasks for the next three to five years (see Halpern, 1986a);

- work within the department, and encouragement of regional developmental activities, to improve the translation of plans for programme budget groups into quantified, robust and integrated strategic pathways for manpower, activity and finance which could readily be implemented through STPs and monitored through reviews;

- the introduction of in-year monitoring of income and expenditure, especially cash-releasing cost improvements, to increase attention to the dynamics and feasibility of plan implementation and reduce the impact of 'in-year pressures' on resources;

- the rapid expansion in the use of new information technologies, especially to increase control over costs but also to plan activity and manpower more effectively;

- the inclusion in the 1988 short term planning guidelines, (Circular HC(88)43, DHSS 1988b) of a clear expression of ministers' relative priorities for the pace and direction of change.

Since the introduction of revised NHS planning system in 1982, a DHSS circular has been issued annually, usually in the spring, to RHAs, DHAs and special health authorities for the London postgraduate teaching hospitals, but Circular HC(88)43 'Health services development: resource assumptions and planning guidelines' broke new ground. These annual planning circulars give guidance on any new policies and changes to the planning process, and set out resource assumptions (in anticipation of the autumn PESC process) on which regions and districts should base their plans for the next two years. The 1987 planning circular (HC(87)7) had reflected a number of ministers' concerns about the feasibility of plans, but by reiterating the many policies and priorities which had been set since Care in Action it served to confuse rather than enlighten. Circular HC(88)43 did not appear until July, after considerable and lengthy deliberation in the DHSS (partly for political reasons), and sought to clarify policy priorities and objectives. This it did by distinguishing between 'policy aims' and 'service objectives' for different care groups, explained thus:

> The <u>service guidelines</u> ... build on, and update where necessary, guidance given in Care in Action and subsequent circulars. However, Ministers recognise that the cumulative effect of this guidance is now of limited help to authorities in the difficult task of deciding between conflicting demands on resources. They also accept that there is wide variation in the circumstances of individual authorities, and in their scope for action to release resources for service changes. They have therefore preferred in these guidelines generally to state their <u>policy aims</u> for services, ie the <u>direction</u> in which they intend they should develop. The planned <u>pace</u> of change in major services, and thus the balance between those services, will be discussed and agreed with Regions individually as they prepare their short-term programmes for 1989-90. Regions should set their own objectives to reflect those agreements.
>
> For some services, in recognition of particular areas of Ministerial concern, the guidelines also set out national <u>service objectives</u>, specifying tasks that all authorities are expected to carry out to a common timescale. Some of these confirm objectives already set in previous guidance.

> ... Short-term programmes should include plans for achieving national objectives, and the Region-specific objectives which reflect the agreed pace for taking forward Ministers' aims. ... They must be achievable within the resources available - which health authorities have a part to play in maximising ...; and have the flexibility to accommodate unforseen pressures in year. (DHSS, 1988b, emphasis in original).

The circular goes on to remind authorities of the need to collaborate with other public, voluntary and private health sector organisations, and of the requirement to generate resources through cost improvement programmes, income generation and resource management (to be referred to in the next subsection). Their attention is drawn to the need to analyse performance, using the DHSS PIs, and to examine the management of supplies, capital investment and the estate in particular. Reflecting the observed weaknesses in regional plans in identifying their precise staffing requirements, authorities were asked to produce manpower supply strategies looking towards the next strategic planning period, linked to costed training strategies which were integrated to meet the needs of service developments and monitored regularly. The specific planning problems analysed from Section 4.3 onwards reflect a number of the areas of weakness identified in this subsection.

4.2.4 Manpower, activity and finance

The sources of funds for the NHS, and allocation of them within it, were described in Chapter 1. The emphasis on efficiency savings as the main source of funds for new developments has placed constraints on planning for many authorities as assumptions of the availability of additional funds later in the strategic period becomes more doubtful and the achievement of short term planned savings is, to some extent, unpredictable. Many analysts have suggested that as health authorities do become more efficient they will be unlikely to be able to sustain this rate of new savings. This is borne out by Table 1.1 of the Social Services Committee's 1989 report which shows a fall in the estimated percentage of cash limit for the HCHS to come from new cost improvements, from 1.4 to 1.1%; and a rapid decline in the margin available for service development from 3.2% in 1987-8 to 1.8% in 1988-9. (Social Services Committee, 1989.)

So how has the NHS sought to improve its efficiency in order that it can meet present and future needs from relatively static real inputs? The main contributors to the planned release of resources since 1986 have been rationalisation of patient services (which are not supposed to result in any reduction of services, although they have often shifted costs on to non-cash limited services such as GPs) and competitive tendering for ancillary services. Other less well-controlled cost improvement programmes (CIPs) have been other reductions in labour costs - alternately an over- and under-achiever, and energy cost savings. Well-predicted but minor savings have been made through the Rayner scrutiny programme and supply costs. (Source: Social Services Committee 1989). However, cost improvements can only result in

the release of funds for alternative use if they are 'cash releasing', rather than the more efficient use of the same money to provide more of the same treatments, often incurring extra costs elsewhere. The links between activity and finance are obvious but often hard to quantify and control.

Clinical activity has increased steadily over many years, in terms of the types of treatment offered, the number of patients receiving them, and the intensity with which resources - especially acute hospital beds - are used. However, this sort of increased efficiency does not necessarily release resources to develop new services (such as community care) or provide the flexibility to meet unforeseen in-year pressures. Indeed, the more intense use of beds, where lengths of stay and turnover intervals are reduced and bed occupancy increased (i.e. the gap between patients is reduced and number of patients per bed per year rises), leads to a higher average cost per occupied bed day in many specialties as the days which patients spend in hospital are those when their clinical treatment, nursing care and administrative requirements are highest. Equally, early discharge leads to higher costs for community nursing and GP services, and for other carers. Some changes in clinical practice can be cost releasing - such as the use of 'planned investigation' units where patients can be booked in specially for tests and sent home to await the results - provided that the beds thus released are not then used to treat more new inpatients.

Circular HC(88)43 reminded health authorities of these distinctions, stressing that service rationalisations should not be service reductions (still hard to distinguish, if one takes the broader view of families and carers as well as doctors). Cash releasing cost improvements should be planned and, where possible, recurrent (i.e. not just for one year). Early CIPs featured many 'windfall savings' - delays in ward openings providing unexpected extra transferable funds or staff, for example. There was also relatively little control or monitoring of the achievement of planned savings, leading to, for example, acute services overspending or not achieving savings so precluding the transfer of resources to the Cinderella services.

These examples are related to perhaps the major problem which health service managers and planners have had traditionally in attempting to control and shape services, and over which the DHSS has also been relatively powerless - the autonomy of clinicians, and their role in the commitment of revenue, capital and human resources. The NHSMB in its corporate strategy report expressed strong concern that not only did regional plans include relatively low levels of anticipated cost improvements, but that they showed little signs of being able to deliver them, especially the cash releasing variety. Projecting forward the aggregate costs of policies being pursued by regions in 1983/4, showed a worrying discrepancy between the activity levels and related expenditure (particularly in the acute sector) which regions had planned for by 1994, and the levels which current trends suggested that they could afford to reach. Anticipation of the problems which health

authorities have had in holding acute sector activity within planned levels contributed to the introduction in 1988 of in-year monitoring of income and expenditure.

At the centre of the NHSMB's concern over the viability of regional strategic plans lay uncertainty over whether regions and districts had adequately related their assumptions about resource provision and utilisation, to plans for service developments - the volume and nature of activities to be undertaken, and the numbers and skill mix of staff implied. While the integration of manpower and activity with the availability and use of finance should be at the heart of strategic and operational planning (as illustrated on Table 4.1), the MAF has not yet had the effect desired of it. The framework as it operated in 1987/8 required regions and districts to provide data for the STP period - the previous years' outturn, forecast outturn for the current year, and plan for the following year. Quantitative data is sought on key levels of activity by programme budget group (e.g. occupied bed days, outpatient attendances); and staff numbers by broad staff group (medical consultants, qualified nurses etc.) plus planned changes by specialty. Unfortunately it is not yet possible to analyse manpower by programme budget care group, but naturally the forms include financial data and regions were asked from 1987/8 to explain the flexibility of the programme to meet in-year pressures. Although the quantitative data is useful, the lack of information in many strategic plans about intended year-on-year changes makes it difficult to identify serious deviations from plan or strategic 'crunch points'.

It seems likely that the shortage of trained staff of many kinds will be a major source of such crunch points or bottlenecks in future. Attempts to quantify such problems, and impress upon health authorities the need to identify sources of supply in detail have been made through the MAF process. Stringent controls on overall staff numbers have been in place for some years, with annual targets agreed between regions and the Department based on regional estimates of need and then translated into ceilings on numbers in major staff groups for districts. Authorities are strongly encouraged to concentrate any staffing increases on direct patient care workers and their support staff.

Since the Griffiths Report (DHSS, 1983) management training has also commanded considerable attention, including the use of a number of 'change agents' from outside the service, to assist NHS managers develop skills in the management of change.

The DoH, professional organisations, university medical schools and Royal Colleges all play a part in planning the supply of medical manpower. Where plans include the recruitment of new consultants or senior doctors, accurately estimating the costs of their clinical activity as well as salary costs for the doctor and their support staff has often been difficult, particularly given the comparative lack of management control over the nature and volume of their work.

Opinions vary both about the desirability and interpretation of increasing activity levels. 'More doctors treat record number', 'Health round-up reveals drop in hospital beds' were the headings when on 19 October 1989 the Daily Telegraph and Guardian respectively reported the publication of the 1989 edition of the health and personal social services statistics for England (DoH, 1989m). The statistics quoted in their reports reflect their traditional editorial emphasis, presenting quite different pictures - one of growth, the other of decline. Add to this ambiguity the year it takes to issue such statistics; and the fact that these HPSS statistics for 1987-8 present significant problems of comparability because of the change to the Körner information system. 7.6 million in-patient and day cases were treated in 1987-8, an average annual increase of 2.8% over the period from 1978 but only 1.7% up on 1986; day cases were declining but classification changes made real comparisons impossible. We still do not know how many inpatient stays are unplanned readmissions for the same condition. New outpatient attendances were down 1.2% at 7.62 million, but the rate of increase in accident and emergency attendances continued to rise (to over 10.8 million) - yet these trends too are hard to interpret because patients not seeing a doctor are no longer counted. DoH statisticians themselves have said: 'Because of the inevitable teething troubles inherent in such a large change to information systems, it is not yet possible to say whether 1987-88 can be regarded as the start of the new data series for inpatients and day cases' ('Health service information changes following Korner - practical aspects of implementation', DoH Statistics and Research Branch 4, undated report to the Social Services Committee). In any event, the Korner consultant episode and district spell data will be of limited value with internal markets. So health service activity is difficult to measure; it becomes even more difficult to evaluate particularly when we do not know what the intended, or desirable, levels may be.

Documents such as HC(88)43 illustrate the recognition by the DHSS of the systemic interconnections between manpower supply, NHS activity, and the wider environment - an appreciation shared by those working on the NHS corporate strategy and which a diagram like Table 4.1 has difficulty in conveying. Bringing activity levels into the equations increases their complexity. Some of the handicaps to the effective implementation of strategic plans have arisen from the confusing policy messages from the centre. Acute services have not been a priority area for developments for some years but some specific acute sector procedures or treatments for particular groups of patients have been accorded priority status on an apparently ad hoc basis or after limited evaluation (such as bone marrow transplantation and coronary artery bypass grafts). Clinicians in the more powerful specialties have continued to be relatively successful in obtaining the resources they need to undertake as much activity as they see fit, it appears. This has often tied up resources which could otherwise have been released for priority developments, or led to new equipment being purchased which has needed increased activity to justify it. However, such relatively unplanned expansions have become more carefully scrutinised in recent years, as regions demand full examination of the impact of new medical and

sscientific equipment purchases as well as new staff, through the short-term planning process.

Ham and Hunter (1988) addressed many issues related to the management of clinical activity and among their conclusions identified the importance of obtaining and retaining the support of clinicians for developments which might improve the availability and use of information about clinical activity and its implications for other parts of the NHS. However, where managerial control over clinician activity cannot be obtained it may become necessary to change contractual arrangements. Deciding whether a particular volume or rate of activity for the specialty or condition concerned is appropriate, in the light of local population characteristics, remains complex even if data are available. Critics of the unquestioning use of performance indicators or waiting lists to set activity targets, have pointed to the dangers of the pursuit of the lowest common denominator, loss of control, or positive feedback effects.

Just as knowing that the numbers of staff or amount of money spent on health care are increasing tells us relatively little about the impact of the NHS on the population's health, so information about increases in the volume of activity or changes in patterns of provision do not necessarily help us assess the standards or outcomes of care, especially when they are highly aggregated. These considerations apply to assessments of performance at each NHS level, and by those in and outside the service.

4.2.5 NHS planning - some issues for analysis

This description of the NHS planning arrangements, as Step 2 of the analytical process, provides the context for the problem examples identified in Section 4.4. First, Section 4.3 looks to some planning theories and aspects of the hard systems methodology to see how they can best be used in analysis of the sorts of problems of data requirements, control, complexity and integration identified in this chapter.

4.3 DEVELOPING THE METHODOLOGY

4.3.1 Potential limitations of the hard systems methodology

Within the ten-step process are a number of checklists intended to identify weak points about the chosen methodology or model and performance-related data under analysis. These were described in Chapter 2, and three sets of questions posed during the analysis of each topic are set out in an Appendix to Chapter 8 together with the responses. In this section we will note the implications of a few of these responses for the topic/ methodology combination, suggest some 'enhancements' to the hard systems methodology (HSM) and introduce some ideas from theories about planning which may help us to assess the value of the analytical process here.

Is it a good enough model?

Taking first the checklist set out in Chapter 8, Appendix Table 1, the choice of the hard systems methodology for analysing and suggesting improvements to the NHS planning system has some potential weaknesses. Some of these are in the form of assumptions to be aware of, which may eventually prove sufficiently problematic to lead to a change in model choice but are more likely simply to limit the sorts of conclusions which can be drawn from the analysis. Others may be regarded as potential constraints on the power of the model, and suggest enhancements which could be made for the purposes of this application. A few significant points are:

- models, it was suggested, need to be designed to enhance and inform rather than replace the decision process and preclude participation. The rejection of the 'experts' plans' was not confined to the 1970s, but still occurs. Can the HSM contribute to organisational learning and development through more participative planning?

- this point reminds us of the underlying functionalist assumptions of the HSM - it is readily used to help all the elements of an organisational 'organism' work together to achieve a common - or dominant party's - goal. We can see that different stakeholders value different uses and goals of planning as a process, as well as seeking different outcomes. If this model application accepts the functionalist assumption uncritically it will do little to enhance the effectiveness of NHS planning.

- it will be advantageous if we can supplement the data collected by a single researcher with other data about conditions for effective planning, which will increase the validity of any generalisations based on this systems application. (The work of Foster et al. introduced in Section 4.3.3 is an example of such a contribution.)

- while iteration is an inbuilt feature of the HSM, there is always the risk of narrowing down too early - by letting routes be constrained by the measures of performance identified, proceeding too quickly to implementation, not assessing adequately the cultural and 'political' feasibility as well as technical possibilities of a plan. Rather than reject the model in favour of an explicitly soft approach, these points have to be borne in mind at the appropriate stages in the approach. This point is relevant when comparing theories about planning too, if a preferred normative model is sought.

- if the 'problem' under examination involves the implementation of change, we need to ensure that the system description and objectives identify the scope for overcoming resistance to change - not just new targets, with little indication of the implications of seeking to depart from the status quo.

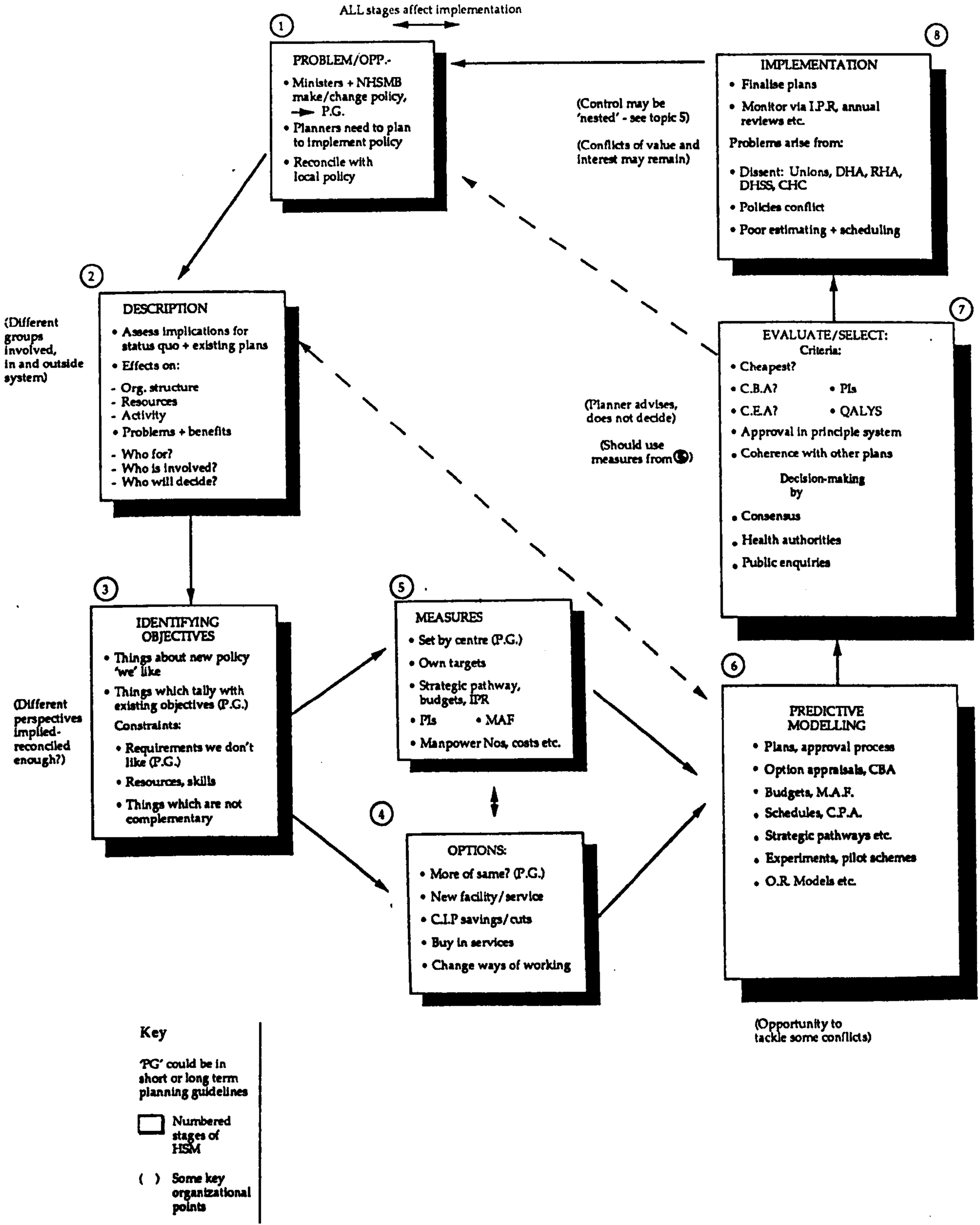
In describing later steps of the HSM application we explore ways of tackling some of these potential limitations.

<u>Building a new planning model - linking NHS planning to the HSM</u>

At this stage, we have clarified in Section 4.2 some of our suspicions that NHS planning has problems, although we have not begun yet to analyse their causes or impacts systematically or systemically. The suitability of the HSM as a 'model' upon which to base a redesign of the planning process, so that it more closely resembles the HSM in terms of its stages and assumptions, has so far been endorsed. However, we will continue to look for other useful approaches or information to strengthen the analysis, and consider a few enhancements in the next subsection.

To begin to describe the NHS planning process in systems terms and at the same time illustrate the resemblance between it and the HSM, focussing on the relatively local level we can map the former onto the latter. This is shown in Figure 4.2, which gives examples of the approximation between the HSM and the NHS planning system as it affects the work of district or regional planners.

Figure 4.2 NHS planning, in the form of the HSM.



Verification

The second of the routine checks, of which the results are summarised in Chapter 8, Appendix Table 2, is to verify that the HSM is the model that we intended to build, to meet the needs of the situation. This forms the activity for Step 3, where the 13 questions were posed of the 'model' of Figure 4.2, NHS planning mapped on to the HSM. A few significant points emerged, which will have a bearing on the rest of the analysis. First, the prescriptive use by 'experts' of both the HSM and normative planning theories, needs to be guarded against if we feel that participatively-made plans are more likely to be implemented than imposed ones. The NHS Option Appraisal manual describes that technique for the assessment of capital schemes (with a strong resemblance to the HSM) as 'an aid to managerial judgement, not a substitute for it' (DHSS 1987c, p.2) so the idea of models which enhance and inform decision processes ('feedback test' question 6) is not alien to NHS planners. We will consider the value of some planning theories for the NHS shortly.

The verification check warns against the stifling of creativity in the search for options, in this case through an over-rational use of the HSM. This point leads to the consideration of enhancing the HSM, so as to emphasise its potential for use as creatively as possible while also being relatively formalised and capable of use in a wide variety of health authority contexts.

A recurring problem in systems applications is the treatment of conflict. As plan implementation is intrinsically about change management, there are some techniques which can be incorporated both within the straightforward use of the HSM as a consultancy tool, and within a revised planning process, to reduce resistance to change and encourage consensus. Examples include: constructing objective trees from different viewpoints, exploring the significance of differences and deciding which are problematic, negotiable etc.; consensus techniques as mentioned by Warfield (1983); Delphi studies; and force field analysis (Lewin, 1951).

Our representation of the planning system incorporates power structures and expectations of the exercise of authority, even sometimes sanctions, within and between each level. Significant conflicts of interest are perhaps most likely to surface at the system/ environment interface and at lower levels (e.g. within NHS units), and can often be anticipated through analysis.

Testing the outcome of the model and methodology application against values known to be true can never equate to scientific testing, but we may find other research which provides comparable data suited to our purposes.

4.3.2 Considering theories about planning

The main purpose of the analysis in Chapter 4 is to bring systems thinking to bear on problems of NHS planning. However, as noted in the earlier chapters, where there exists a body of theory which may also be able to provide insights to a topic and perhaps complement some aspects of the chosen systems approach, we will explore this possible contribution. Having chosen the HSM partly because of its resemblance to formal rational planning, as that model of planning is increasingly seen as deficient it is worth looking at some other planning models to see if they have desirable features we could incorporate into the HSM-based planning model.

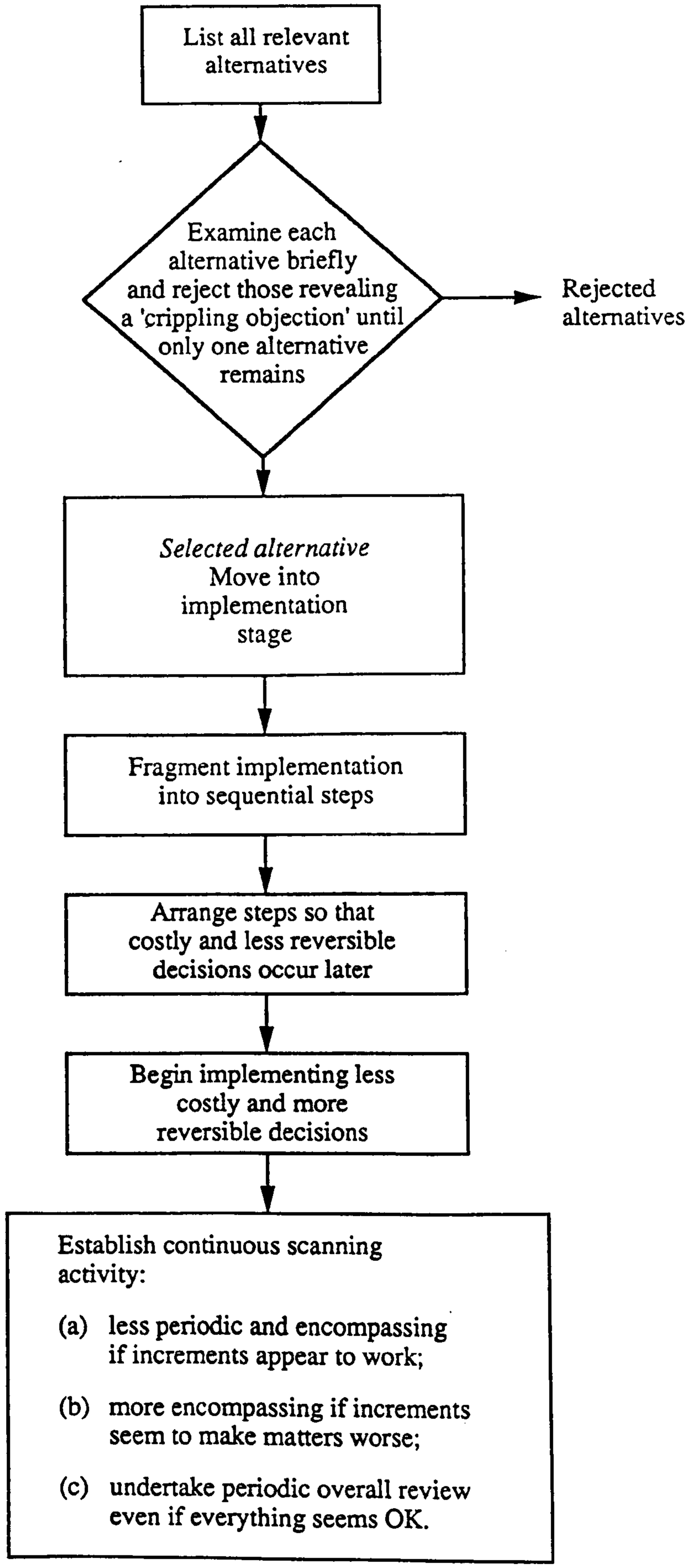
A number of theories about planning have been applied to the NHS both descriptively and normatively (Lee and Mills). The roots of the system in rational comprehensive planning have been noted together with the suggestion that this is no longer a particularly helpful model, because of the behavioural and structural complexities of the NHS, and uncertainties presented by its environment. The Office of Health Economics (1984), in suggesting that the NHS planning system was changing towards a 'more incremental "mixed scanning" approach' confused the issue, as there are distinct differences between incremental and mixed scanning models.

Certainly the trend is away from the rational comprehensive approach. It is hard to imagine health service planners and policy-makers ever having the time, information or skills to identify and evaluate a comprehensive range of options before making decisions. Although in some contexts health policy decisions can be made objectively or consensually, they are rarely free from political and value-laden considerations especially where the use of scarce resources is concerned. So while the formal NHS planning system retains many rational features, there are several candidates for a more appropriate model: disjointed incrementalism (Lindblom, 1959), Etzioni's (1967) mixed scanning, or logical incrementalism (Quinn, 1980). We will consider a few points about the first two of these.

None of these theoretical approaches tackle the role of structural or class interests, power and ideology fully, so their use to explain the perpetuation of health inequalities in the face of 'equalising' planning policies may be limited (Ham 1985, Parston 1980). Lee and Mills (1982) identify shortcomings in incrementalism both as description and prescription. For example, while a policy may be implemented in a series of small steps, it may reflect fundamental changes in goals or direction - indeed, decisions made with a rational approach may lead to small-step changes and incremental lower-level decisions. The desirability of incrementalism is challenged on several counts: that it perpetuates the power of dominant groups (such as the medical profession and politicians), and 'may frustrate the capacity of society to recognise or tackle higher-level problems, where radical change may be the required response' (ibid., p.51). Others have suggested that incrementalism stifles innovation, is short sighted, and can produce poor quality decisions (see, for example, Bowman and Asch, 1987, pp. 345-6). 'Mixed scanning' offers an alternative prescription which embraces both a broad overview to establish needs for major change, and incremental steps (which can preserve a capacity for flexibility).

Etzioni's (1967) model applied to health services would incorporate taking a broad overview of the health care environment, (as if looking down from a helicopter) to seek out opportunities, threats and new ideas. A relatively rational selection procedure would assess the importance of such issues and choose those for detailed planning attention, which would embody many of the features of rational approach but with a narrow focus rather than attempting to be all-embracing. A continuous process of assessment of implementation, and periodic general review, is also established. The concept of bounded rationality introduced in Chapter 3 provides an explanation for the ways planners and other decision-makers can concentrate their efforts on systematically finding acceptable means to a selection of the many competing objectives identified from the 'helicopter' view.

Figure 4.3 Mixed scanning (after Bowman and Asch 1987, p.348).



Recent developments in health planning in Britain have exhibited some similarities to this model. Although successive governments have retained many elements of previous health policy, their manifestos and remits given to a number of enquiry or review teams represent the painting of a broad picture of the desired shape of health care; in our democracy the boundaries may reflect values and ideology rather than rational appraisal of costs and benefits. The selection of issues from this picture and their translation into action required of health planners and managers will blend values with pragmatism - recognition of the views of strong interest groups, public perceptions and practical considerations. Finally, planning based on rational approaches can contribute to the translation of broad policy aims into implementable policy - which may be in small steps, permitting the adjustment required by subsequent views from the helicopter. The DHSS planning guidelines to regions and districts in 1988 (HC(88)43, DHSS 1988b) and recent DHSS work on a 'planning data set' DHSS 1988i) represent examples of mechanisms for selection and rational planning; strategic planning guidelines reflect the view of the NHS from a central 'helicopter'.

Lee and Mills conclude: 'Politically and intellectually [mixed scanning] may be more painful than "muddling through", and for that reason may be immediately unattractive'. (1982, p. 56). Slow progress towards policy priorities since the 1970s suggests that Lindblom's pluralist and incrementalist model has not been an adequate description. Planning guidance from the DHSS following the corporate strategy exercise more closely resembles mixed scanning, as it introduces several cycles of overview and reflection, especially at regioanl level, before embarking on more detailed rational planning. However, the fact that the corporate strategy activity was set aside as the political climate changed, suggests that mixed scanning may be politically rather than intellectually painful.

Nonetheless, both long and short term planning seem to have become closer to the mixed scanning model, which in turn appears to have a number of appropriate features for the complex and value-laden NHS. It seems worthwhile therefore to consider whether there are ways in which the HSM-based planning model which we will be using to address some problematic examples, can be enhanced to take account of some characteristics of mixed scanning.

4.3.3 Enhancing the hard systems methodology

From the preceding steps several points about the HSM have been identified which suggest that it would be wise to explore the possibility of adjusting it on this occasion, before using it as a diagnostic and design tool. It appears that planning could be more effective if, for example, it: involved iterating between a broad view and detailed rational analysis; could encourage participation by a range of interested groups; and could encourage creativity. As the HSM has not been developed explicitly to provide these features, and as we will be using the HSM as a sort of blueprint for a redesigned NHS planning system, it would be desirable to incorporate these into our model before undertaking the rest of the analysis.

Fortunately some useful ideas for improvements can be found in the work of a number of writers from systems and other disciplines, which are relevant both to strategic planning and systems modelling. Ideas from the work of Ackoff (1981) and Foster et al.(Dyson and Foster 1980, 1983; Foster and Foster 1982, Foster and Kitching 1989) have been translated into adaptations to the HSM for the purposes of this analysis.

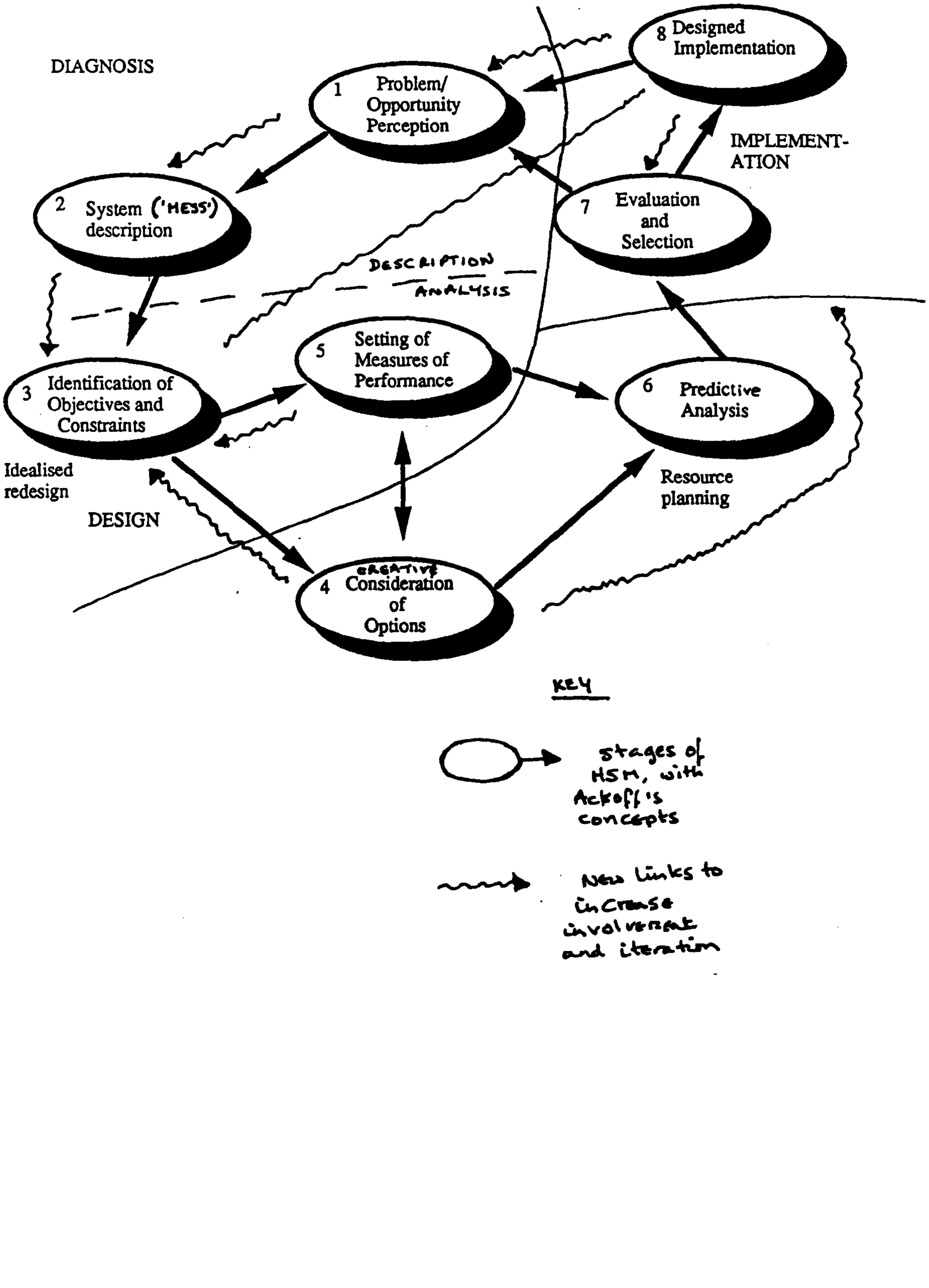
First, to take the contribution from the work of Ackoff, he has proposed an approach to planning which emphasises participation and the empowerment of stakeholders, iteration, organisational learning, holism and the use of models for designing new (rather than criticising old) ways of doing things. Taking the elements of plans - problems, in which decision-makers have to make important and difficult choices between alternative courses of action - he first describes three approaches to dealing with problems: 'clinical', 'research' and 'design'. Decision-makers may draw on more than one, but their experience and organisational objectives tend to lead them towards a predominant style. Planners who take a 'design' approach seek tools to help in 'mess management', tackling the systems of problems characteristic of organisations in ways which will produce sustainable improvements and the capacity to cope with new problems.

This seems a desirable objective for NHS planning. Ackoff describes some of the shortcomings of the clinical approach (like organisational development) and research approach (like operational research). They tend to ignore the technical and systemic properties of organisational problems respectively. The design approach builds on the strong points of the other two, producing a five-phase planning process which is described

in Ackoff, 1981, pp.358-9. The five phases can readily be mapped onto the HSM, as illustrated in Figure 4.4. The mode of their application is important, featuring:

- high levels of participation of stakeholder groups in integrated and co-ordinated small planning teams
- continuous improvement of plans, organisational and individual learning and development
- the use of qualitative and quantitative tools, by stakeholders taught by professional planners
- the recognition by both planners and stakeholders that many of the constraints on their choices which they perceive, are self-imposed.

Figure 4.4 The enhanced HSM for strategic planning in the NHS.



Ackoff has identified some familiar steps, to which he has attached new qualities. Foster and his colleagues have been working on a method to assess the effectiveness of the plans which are made and implemented in accordance with the normative guidance of writers like Ackoff. Their aim is to assess the effectiveness of planning systems themselves, rather than the performance outcomes of planning. Having identified and refined a set of 13 attributes whose presence contributed to planning effectiveness, Foster has recently attempted to calibrate a sub-set of six of the most important attributes, in order that planners can assess their practice and target their efforts to improve it (Foster and Kitching, 1989). These key attributes are:

- clarity of statement of objectives;
- integration of the planning function with the decision making process
- explicitness of assumptions
- iteration in the planning process including consistency checks
- catalytic action of the planning function in stimulating strategic thinking in the organisation
- treatment of uncertainty in evaluation.

The desirable attributes can apply equally to planning in the public and private sectors. To simplify Foster's work greatly, for each of these attributes a five-point ordinal scale of descriptive 'anchors' is set out, ranging from level 1 at which the attribute would contribute little or nothing to effective planning, to level 5 at which it is operated to the full. The nature of several of our problem areas and concerns about NHS planning suggest that many of the six prime attributes (and of the rest of the original 13) may be operating at a pretty low level on Foster's scale.

Enhancing the HSM with the ideas of Ackoff and Foster

Enhancing the HSM by incorporating such considerations from the work of Ackoff and Foster and his colleagues, should therefore overcome some of the limitations on that methodology as a model for a planning system. For example:

- Involving small participative planning teams in the implementation stage of the HSM, and ensuring iteration between stages 7 and 8 and back to 1-3 takes place, asking 'are we doing what we need, and want, to do?', should increase the commitment of stakeholders to plans.

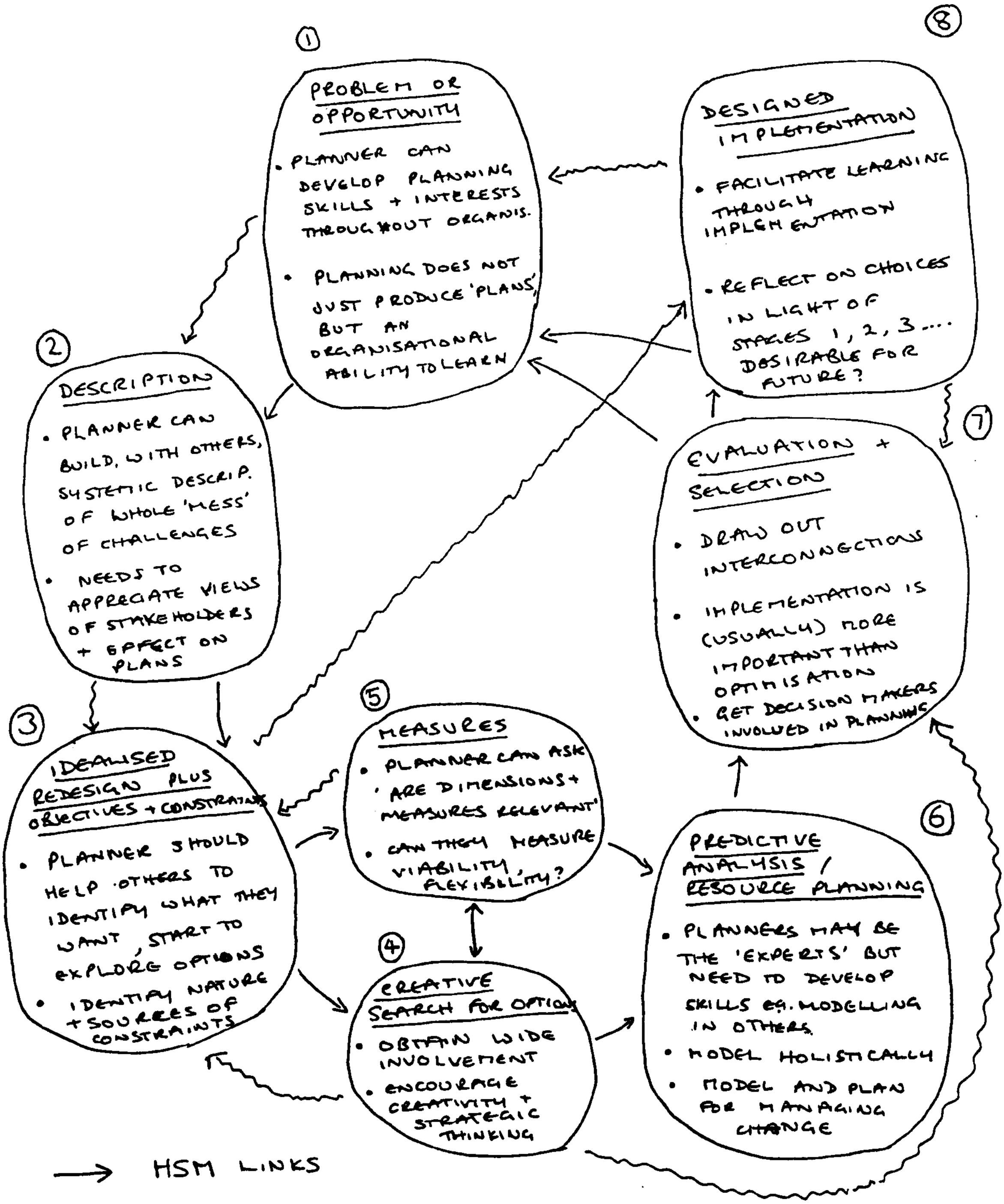
- The design approach should ensure that planners use their expert knowledge to inform others by teaching, enhancing participation rather than replacing it.

- The HSM will be well equipped to tackle messy situations if stages 1, 2 and 3 are seen in terms of Ackoff's mess formulation and 'idealised redesign', projecting the present into the future.

- HSM stages 5-8 need to be seen as 'change management'. Resistance to change should be reduced by the greater emphasis on participation, and improving the feasibility of options considered at stage 6 in the HSM, Ackoff's phase 4 (resource planning).

Figure 4.5 indicates the effect which including the factors identified by Foster et al. (operating at their highest levels of effectiveness) and also including the features of Ackoff's 'design approach' to planning, might have on the way NHS planners operate the planning process. The nature of a planner's role, and new links between stages, have been mapped on to the HSM, as if to guide the planning process. Next, in Section 4.4, we will test these enhancements by applying the 'new' hard systems methodology to some examples of problems observed in NHS planning.

Figure 4.5 The planner's role in a planning process based on the 'enhanced' hard systems methodology.



4.4 ANALYSIS OF SOME NHS PLANNING PROBLEMS

4.4.1 The selection of problems to be addressed

The description of the NHS planning system in Section 4.2 indicated some areas of weakness, many of which had been identified by the NHS management board in their preparations for the corporate strategy, or by regions and districts were action has been taking place to improve both formal and informal aspects. Here and in the following sections, through some specific examples, we will see what additional insights emerge if planners were to adopt an 'enhanced HSM-based planning approach'.

In Section 4.1.3 four problem areas or categories were identified, under which a number of problems observed during primary data collection can be classified. To recap, these were:

a) the need to find appropriate techniques, to combine rational and quantitative planning with organisational and behavioural complexity;

b) major data requirements especially for monitoring the implementation of plans;

c) strong environmental influences and control problems;

d) integrating plans for different timescales and levels.

Each of these problem areas reflects systemic properties - complexity, information and communication, control, the environment, interrelatedness. Some of the problems which were observed raised issues with a bearing on the choice of theoretical model for NHS planning. Two more problem areas to be considered therefore are:

e) the need to build in to planning systems a facility for iterating between a wide view and narrower, more detailed attention;

f) the need for planning systems to be able to cope with behavioural (often inter-organisational) tensions when action to control plan implementation is required.

In Sections 4, 5 and 6 we move from the general to the particular and focus on a selection of specific planning issues. All except one of those presented here relate to planning in Trent regional health authority and some of its districts; but most reflect issues observed in other authorities too and widely acknowledged (in the corporate strategy, for instance) as problematic. The problem examples are presented under the six types, a) - f) above, one or more examples having been chosen to represent each category. In the next subsection the problems are described; these examples will contribute to a synthesis of the nature of performance evaluation 'failure' in the field of plan implementation, and its suggested systemic causes. In Section 5 we see how the HSM-based planning approach could suggest changes and improvements; and in Section 6 some implications for the implementation of these changes are identified.

4.4.2 Examples of planning problems

Specific problem area a) The need to find appropriate techniques, to combine rational and quantitative planning with organisational and behavioural complexity

Example i. Problems with 'top down' programme budgeting.

Trent has developed a tightly-knit 'programme budget' approach to strategic planning, in which during the planning process the region defined for each district 'realistic' targets for 1994 for: manpower, financial resources, workload - by service group (the elderly, acute services etc.). The targets reflect region's assessment of available revenue and capital funds (including those generated by efficiency savings), and their deployment in line with regional and national priorities. The strategy thus comprises costed targets for essential developments and current services, although it does not allow for all long term objectives to be met even in priority services.

Through inputs to the DHSS by staff from the region, uses and requirements for planning data have been considered at national level so Trent's experience may have wider implications. A number of problems with the programme budget approach taken by Trent have been noted and planners in the region are developing adjustments to it in the light of experience. For example, there is a particularly strong desire for better information about the provision of services to meet the needs of the elderly; and for separate costing information for in- and out-patient services. Information is insufficiently detailed for the amount of inter-district comparisons which the region would like to make, and methods for calculating and updating programme budgets are not standardised. However, Trent seems to remain committed to a relatively centralised approach, not only providing financial and manpower constraints and workload guidance, but making significant decisions on behalf of districts about local priorities. This increases the region's workload and seems to reduce commitment from districts to plans and their controlled implementation.

Example ii. **Marrying regional interests and district needs.**

While Trent regional planners see their programme budget approach as 'generally welcomed by DHA managers and planners' and having 'provided a robust and practical framework' (Trent RHA 1986, p.15), the strategic plan included 'a number of proposals and unresolved issues which are in need of further clarification' (ibid. p.3). Some of the issues indicated fundamental lack of agreement on key service patterns. Interviews with staff in two Trent districts in 1987 indicated that these were still problematic; for example, regarding maternity services in Sheffield, and services for people with mental illness in Southern Derbyshire. This has contributed to the impression gained through interviews that the region adopts a more paternalistic approach to its constituent districts than many other regions. This has benefits - Trent is gaining resources and needs to ensure they are well used, which places considerable demands on district planning skills, and the region has gained a good reputation nationally for quality of service improvements. It may also have costs, in terms of resentment in districts of regional dominance at a time when autonomy and devolution of responsibility are supposed (post Griffiths) to be highly valued. The style may not sit comfortably with districts who are trying to develop greater grassroots participation in planning, with an emphasis on health promotion (such as Sheffield). Community services and prevention received relatively little attention in the regional strategy; while these naturally involve much local planning the same could be said for, for example, services for the mentally handicapped, which like most other service groups received more regional attention. This perhaps suggests a regional focus on acute services, which are nonetheless providing significant control problems. As examples below will illustrate, having a formal, official plan incorporating detailed targets for activity levels and so on, is only one step towards the achievement of strategic objectives. Making and implementing these plans is not only difficult technically (bearing the many complexities and uncertainties in mind); it also requires a full understanding of the ways in which individuals and groups respond when presented with a plan, which may not have their full commitment.

Specific problem area b) Major data and information requirements especially for monitoring the implementation of plans

Example i. Reluctance to use quantitative information, especially in some districts.

> There is plenty of data in the NHS, but much is not turned into useful information for planning. The views expressed by the head of Trent's OR unit struck a chord with those of others I had interviewed who were interested in NHS information: that it was the practical use of the information which was novel, not data collection per se; and that when information was available and used, it was often criticised. Yet when people were asked what information they would prefer decisions and models to be based upon they could not provide alternatives. The NHS is portrayed as being very slow to use information, quantitative approaches and information technology (IT) even in Trent with its innovations in planning and review; this reflects organisational culture as well as technical complexity.

Example ii. Lack of data for key strategic developments.

> Many aspects of the work of regional and district plannners illustrate the need for information to be available at the right time and place, in appropriate forms and quantities, and of high enough quality to be of real benefit to plan making and implementing. Furthermore, each of these conditions may be viewed differently by various NHS levels because of their interests. Trent region have felt the need to adopt a different baseline year for their management accounting framework from that used by the DoH, in order to relate it more directly to the strategic plan. Their assessment of the programme budget system operating in 1987 highlighted the lack of disaggregated information needed to make valid comparisons between districts and regions, expecially for acute services. Data on services for the elderly omitted many important elements of care as it focused primarily on beds designated as acute elderly and long stay, whereas many elderly people are treated in normal beds and in the community - indeed, many strategic aims are hard to monitor because of the general lack of information about the community services provided by the NHS and others.

Example iii. Difficulties in predicting and controlling activity levels.

To continue looking at services for the elderly, difficulties in predicting, assessing and controlling activity levels, with their implications for manpower and revenue, are illustrated in Trent by the increase in in-patient, out-patient and day treatments for the elderly in excess of that planned (see Trent RHA 1987a, pp.1.17 - 1.19; and 1988, pp. 4.34 - 4.38). In part this appears to reflect changes in coding following the introduction of the Körner system of health service information. The pace of revenue investment in services for the elderly at district level is however less than planned, although capital investment (identified by the NHS Management Board as a 'crunchpoint' in monitoring strategic targets) was on target to 1989. Further detailed planning was deferred because of central policy uncertainty. (Revenue spending on community care and preventive services for the elderly was running well ahead of target in 1987-8, largely due to pay awards rather than increased activity outside the hospital sector). In spite of considerable assistance in planning from the OR unit, the 'coherence models' used to relate trends in activity, manpower and finance by programme budget group over the strategic planning period do not as yet appear to provide a detailed indication of the impact of such deviations from (or gaps in) the plan, on the years from 1990-4. It is small wonder, therefore, that in 1986 the NHSMB in its corporate strategic planning document was very concerned about the feasibility of many regional strategies to 1994.

<u>Specific problem area c) Strong environmental influences and control problems</u>

Example i. Problems in predicting and responding to increasing demands on resources.

To quote the Trent regional strategy again, 'The Health Service will always be under the influence of two major opposing forces: the need for change as a consequence of population shifts and clinical progress, and the inevitable constraints on available resources.' (Trent RHA 1986, p. 7). The plan is acknowledged to encompass 'some degree of uncertainty' and the need to be flexible is noted. In spite of this awareness, there are many examples in Trent and elsewhere that many strong influences are not only beyond managerial control, but also difficult to predict and prepare for effectively.

Example ii. Conflicting professional and managerial values.

> Problems in monitoring activity levels in services for the elderly reflect professional as well as technical complexities. 'Monitoring the achievement of the workload elements of the [plan for services for the elderly] is expected to be somewhat problematical in future, partly because of changes in Körner definitions, and partly because the trend towards the closer integration between geriatrics and general medicine is resulting in the increasing appointment of Consultant Physicians with a special interest in the elderly, whose workload will be coded to general medicine.' (Trent RHA 1987b, vol. 3, Services for the elderly p.5.) This quote disguises an example of a common source of conflict in the NHS, where rivalries between sections of the medical profession impinge on planning and health care provision. Collaboration between these specialties has benefits - patients treated as individuals, but whose health needs may be special because of their age; greater flexibility in the use of beds. But it will be hindered if, for example, resource allocation is affected by workload performance indicators which do not give a fair picture, due to coding decided elsewhere. The problem is put less subtly by the region's Operational Research Unit in its 1985-6 annual report - 'A computer model has been developed to adjudicate in the battle for resources between physicians and geriatricians. The model has been well received in the District [it was developed for Southern Derbyshire HA] and could well prove useful to other Districts and at Region' (para. 2.5.3). 'The grey area of treatment of the elderly in geriatric and general medicine beds continues to confuse planning issues. There is no consistency between Districts on admission policies ... Due to a lack of staff the analysis has not been continued' (ibid. para. 2.1.7). Here districts are relatively powerless, as clinicians (whose contracts are held by regions) have considerable autonomy over admission and discharge policies. Regional planners and managers have appeared reluctant to exert such authority as they have over doctors in this sort of area, as indicated by Trent's 'Background papers for management and ministerial reviews' (Trent RHA 1987b op cit. p.7-8).

Specific problem area d) Integrating plans for different timescales and levels

Example i. Approaches to reconciling region-wide plans for the strategic period.

Table 4.1 illustrates the relationships between short and long term planning and roles of the centre and periphery - regions, districts and units - as they have evolved up to 1988. The mechanics of this integration are not yet running smoothly, and a system which is highly interdependent also runs the risk of inflexibility. Several different patterns have been adopted, by regions, to link long and short term plans for their districts. As well as Trent's 'coherence model' approach, North West Thames RHA has attempted to establish 'planning agreements' with districts, to target regionally allocated funds to districts in line with regional strategic priorities. After the 1984-94 plans were introduced, planning agreements were 'negotiated' with districts - region seeing them as a genuine attempt to take account of districts' priorities, although districts did not always accept that motive. So the translation of planning agreements into 'year-on-year change profiles' took a long time, and met major problems with some districts. (For a description of the special planning problems faced in London see King's Fund, 1987.) In North West Thames as with Trent there was a gap in detailed planning between 1990-94 (in the absence of resource assumptions and medical manpower plans), so like 'coherence models' the 'planning agreements' have provided incomplete tests of the feasibility of regional strategic plans. The DHSS were expected to provide some guidance on the development of 'pathways' which does not seem to have materialised. NW Thames saw planning agreements as a way of improving the robustness of plans, feeding directly into STPs and providing the means of fine tuning strategies in annual steps. However, the lack of modelling to test assumptions for the 1990-94 period (as at 1988) was worrying to a number of districts in Trent and NW Thames.

Specific problem area e) Need for both wide and narrow view

Example i. A number of the empirical examples above reflect the need for planners and decision-makers at each NHS level to alternate between taking a wide view (planning integrated district services for elderly people, for example) and narrowing down (assessing the constraints imposed by clinical admissions policies), and still come up with a plan that works.

Specific problem area f) Keeping plans on target, inter-organisational control

Example i. We have seen some of the difficulties of planning in detail for long periods, but the need to anticipate long lead times and keep plan implementation on target or adapted to new targets is strong. The problems experienced by those trying to set up continuous monitoring systems included intra-region and region:district relationship problems - 'gatekeeping' by key staff, resistance to change (statisticians in Trent, for example, apparently guard their role in the use of information jealously) - and have general applicability.

4.4.3 Taking stock of the analysis so far - completing Step 4

Up to this point in the exploration of planning problems, we have taken what may look like a reductionist approach. Having identified in Section 2 that all was not well with the NHS planning system, the contribution which the hard systems methodology could make to understanding some of the problems and designing general changes to improve the prospects for plan implementation were described. It is assumed that formal and rational planning is still desirable, and Figures 4.2, 4.4 and 4.5 illustrate the potential similarity between a planner's experience of the planning system and the stages of the HSM as decision-making processes. Some real-world examples of the problem areas have been identified in order that we may test the effect of any changes through them. It has been necessary to narrow down the field of analysis in this way to make the task manageable in the context of the rest of the research, but primary and secondary data strongly suggest that the chosen examples are specific instances of common types of problem. However, some of the analysis in the design and implementation steps to follow, will operate at a higher level of generality again.

To complete Step 4 of the analytical process, a summary of the type of problems in planning which our cases exemplify is presented, together with the 'feedback checks' applied in the analysis. The systemic reasons for these particular types of performance evaluation failure are suggested, and some implications which the methodology here may have in terms of the conclusions we will be able to draw at Step 9 are noted through the validation check. Although we refer here, as in the other analyses of topics, to 'failures', in the case of planning this is perhaps too negative a word and should more fairly be interpreted as 'shortcomings'.

First, to sum up the nature of the 'performance evaluation failure' dealt with in this topic, the six problem areas have suggested the following sorts of concerns.

Problem area a). Rational and quantitative planning, centrally ordered by region, can meet resistance or low commitment and can be complicated by skill shortages at local level. There is a need to get the right balance between advising/ directing/ assisting/ doing it for districts. As managers may impose this on planners, it is not just a planning problem.

Problem area b). NHS organisational culture and skills are not conducive to the confident use of quantitative information. Data has gaps, (e.g. community services) or is not in the relevant form for different NHS levels. There are serious difficulties in prediction especially activity levels (because they are hard to control), which lead to limited detail being available for later years of plan to test feasibility. This is confirmed by the corporate strategy's concern about feasibility of regional and district strategies. When progress can be/ is monitored retrospectively, data may not be explanatory enough - for example, about unit and sub-unit levels - to correct performance or chose appropriate actions. Again this is not just a planners' problem.

Problem area c). It is hard for planners and managers to control clinical activity (and therefore spending) and although they would like to plan to meet treatment/ care needs, they tend to resort to control via bed numbers and other mechanistic or proxy measures of input or process, for ease of control. As will be indicated in Chapter 8, it is hard to implement new structures for more robust planning and control without being too directive and therefore resented (factors which are related to organisational culture and the wider system).

Problem area d). We have seen how important it is to link long and short term planning, and how different levels are inextricably inter-related because of central resource allocation and accountability, for the planning system up to 1988 at least. But mechanisms for such integration - 'planning agreements', 'change profiles', 'coherence models' - all have been hard to develop and implement fully. Organisational structure, culture, politics, and the wider system are all important here - but planners could contribute to improvements by, for example, developing more accessible forms of modelling for wider use.

Problem area e). The observed problems have indicated the potential for 'mixed scanning' - iteration between obtaining a broader view and narrowing down - to be taken as an appropriate model from normative planning theory which could enhance the prospects of the 'policy aims and service objectives' approach at each level. It could provide a valuable model for devolution of planning responsibility, thereby reducing direct regional or central involvement. A planning model such as mixed scanning could increase the flexibility and responsiveness of strategies by building in an expectation of more frequent and effective overviews than the current five year cycle.

Problem area f). Behavioural considerations among the examples suggest a need for mechanisms to facilitate the continuous assessment of implementation, perhaps through management support strategies, and adaptive and reflective planning (again borne out by comments in the corporate strategy). 'Planning' needs to be done by more people, to be redefined so that it is not just about producing plans but about managing stability and change. This is relevant to the whole organisation, but planners need to take an especially holistic view.

As a feedback check to see if the sorts of 'failures' described here may be more widely experienced in the NHS, some corroborative evidence was provided by secondary sources (literature, and personal communications with experts in the field). Most of these observations have been discussed with expert personal contacts, who broadly concurred. References elsewhere in this thesis and to follow in this chapter support these conclusions, although some alert us to questions about them or the approach which need to be borne in mind for a future iteration and/or in drawing conclusions on this topic.

To identify some reasons for performance evaluation failures introduced above, in systemic terms, the four types of problem area can be located on Figure 4.2. This depicts the NHS planner's experience, under current planning arrangements, in the format of the HSM.

Problem area a) suggests there are conflicting/ competing objectives at different levels.

Problem area b) indicates a lack of skills or inclination to undertake modelling (predictive analysis), and a lack of tools for projections and simulation. There are weaknesse in control systems, communication and the provision of feedback information. Further, the objectives of those designing information systems differ from those using them.

Problem area c) suggests that control over clinical processes and inputs, by managers, is only partial; there is very limited output and outcome monitoring and feedback. Planners have to consider this in making feasible plans, as introducing new planning arrangements which involve more directive control could have knock-on effects, and be resisted by various interested groups especially clinicians.

Problem area d) indicates the presence of disputed measures of performance and options for routes to objectives. Modelling of routes seems often to be incomplete and there is a need for thorough, systematic and systemic approaches to descriptive analysis.

Systemic insights into failures can also be gained from the theory-related points at e) and f). For example, mixed scanning suggests that objectives become constraints for lower tiers; however, it may not identify or explain some problematic elements. Attention to implementation needs to start with the early stages of description of the planning problem or opportunity, and to assess organisational culture and environmental influences in order to obtain a wider picture.

To validate the HSM-based model of planning which has led to these systemic explanations for the 'failures', five questions (listed in Table 2.3, Chapter 2) have been posed. These are designed to assess whether the model is an adequate representation of the phenomena of interest, for the purposes of the study. The outcome of these tests is set out in Table 3 in the Appendix to Chapter 8 and here we will just note a few important points.

By and large the outcome of the validity tests confirmed the adequacy of the HSM and models derived through it. A few queries need consideration in Step 5 of the analytical process or in the assessment of the overall analysis at Step 9 in Chapter 8. First, after the 1989 NHS White Paper 'Working for Patients' (HMSO, 1989) is implemented, the emphasis will be on shorter term market-oriented business plans. The HSM may then be a less suitable framework for the design of planning systems. Second, adaptations to the planning system should focus on satisficing, adaptive, need-based qualities of plans. Finally, other systems approaches such as Beer's viable system model may be better for the development of forecasting, and the acceptance by the centre (Department of Health and regional health authorities) of variability at the periphery (districts).

4.5 STEP 5. DESIGNING IMPROVEMENTS TO THE NHS PLANNING SYSTEM

4.5.1 Applying the 'enhanced HSM' to the problem areas and concerns about planning

In Step 4 (Section 4.4.) we identified specific examples from the primary data of six areas where changes in NHS planning could increase its effectiveness. Four of these areas (a-d) relate to more or less detailed aspects of the process of planning, while e) and f) also had implications for the theory of health service planning.

We will now look again at the specific examples and concerns identified from the primary data, to see how a planning system more closely resembling the enhanced HSM (as illustrated by Figures 4.4 and 4.5) might affect their nature and/or operation. We will also note a few references from literature mostly relating to NHS planning, which provide further insights to the implications of such suggestions for redesign of the system. The examples are presented in the same order as in Section 4.4.2.

Problem area a) Example i. Problems with 'top down' programme budgeting.

First, programme budgets are themselves models. If they were explicitly related to options and objectives this would be a test of their desirability, and could increase commitment to them. Second, responsibility for planning and modelling needs to be devolved further to districts, and perhaps especially to units (some already are keen to take a more active role). This will involve training, which region could facilitate. Then region may have to accept that districts and units may choose their own routes towards shared objectives in the light of common constraints.

Problem area a) Example ii. Marrying regional interests and district needs.

Region has both an operational research and an organisational development unit which can provide services directly to districts, but seems to want to do the modelling for the lower tiers and restrict their development - examples perhaps of different parts of regional level taking Ackoff's research and clinical approaches, respectively. A more appropriate regional role would be to develop skills at lower levels, negotiate with them over expectations and autonomy, and if necessary be directive about districts' and units' outcomes, not processes.

Is the objective of programme budgets to impose the region's desired patterns of services on districts (Perrow's concept of goal displacement)?

A more constructive regional role, as many districts and units have had good ideas and developed practical approaches to commonly-experienced problems (e.g. Derbyshire Royal Infirmary's annual review process introduced in Chapter 5, Sheffield HA's efforts to operationalise the Healthy Cities targets), could be as broker. The region could arrange for the sharing of skills and information to encourage more 'bottom up' developments which may involve technical and quantitative skills.

Some further references relevant to this problem area (and to c. below) include Mayhew (1984), Beveridge (1983), Rathwell (1984), and Rosenhead (1978).

Problem area b) Example i. Reluctance to use quantitative information, especially in some districts.

Trent RHA has in the past placed heavy emphasis on the production of graphs, use of PIs etc., and provided particularly voluminous reports on performance to the DHSS. The measures and options which these sorts of performance information imply may reflect the objectives of the region, but run counter to some of the objectives of districts. Being more selective and developing 'bottom up' reporting could allay the suspicions of districts.

Problem area b) Example ii. Lack of data for key strategic developments.

NHS information systems are subject to considerable external control, and serve a range of interests, serving higher levels best. There are not the resources to develop locally-useful information systems independently. The first step could be to develop a full appreciation of 'the problem' - whose interests do information systems serve, whose objectives, where are the constraints from (self-imposed?). This could draw together various views, linking with other health authorities working on local data sets and also local government authorities.

Problem area b) Example iii. Difficulties in predicting and controlling activity levels.

Deviations from, and gaps in, strategic plans may have worrying implications for their viability. Some parts are highly detailed, yet examples were common of how easily plans can be diverted and have surprising effects. There is a need to get the right balance, when trying to map out objectives and targets for the 1990-94 period (and the later years of any strategic planning period), to avoid spurious accuracy yet obtain insights for present action. (Methods for ensuring robustness and flexibility of plans will be referred to briefly in Chapter 8.) But regions and districts need to get a feel for what is feasible, taking a holistic approach and anticipating interactions, dynamics and positive feedback. The 'coherence models' of strategic trends need to be complemented by a varied set of additional models, developed locally.

Problem area c) Example i. Problems in predicting and responding to increasing demands on resources.

In spite of seeing its strategic plan as an adaptable 'living document', the plans of Trent RHA and other authorities seem to have inadequate responsiveness to unpredicted influences. Generally, the HSM with its emphasis on a holistic system description, awareness of environmental influences etc. could alert planners and others to potential effects of external and internal influences.

Problem area c) Example ii. Conflicting professional and managerial values.

Trent RHA has correctly identified many of the complexities and obstacles to controlling strategic development in its 'Background papers for management and ministerial reviews' (1987b, vol. 3, pp. 7-8). One route towards a 'strategic approach which is sensitive to the interfaces of clinical specialties' which they seek, could be for region to be firmer in encouraging clinicians to participate in strategic planning and thinking, to disseminate strategic awareness as widely as possible and especially among doctors. This will require strong commitment from those with the highest authority, and a wider dialogue with the professions. Some clinicians may appreciate aspects of the rational type HSM, but any negotiations will need to be aware of professional culture, ethos etc. Perhaps a directive approach will be required to overcome clinician resistance (as with the government's imposition of medical audit, pushing at a slightly open door), but other change-management strategies should also be considered.

Problem area d) Example i. Approaches to reconciling region-wide plans for the strategic period.

As well as considering the interests and objectives of stakeholder groups horizontally, planners and decision-makers need to be aware of their impacts vertically, as many of the above examples have suggested. It has been too easy for organisational tensions and conflicts of interest to become tied up with technical problems - which remain unresolved. Both sorts of problem are amenable to some improvement but not if the different groups feel it is risky to try to see the others' viewpoint, and if short term problems keep getting in the way of thinking more strategically. Collaboration rather than confrontation needs to be encouraged by the DoH; the Department needs to be aware also of the impact of policy changes on strategic plans which they know are often not robust enough. Various aspects of the HSM approach applied at each level would help give learning, collaboration and participation a clearer place in planning.

Problem area e) Example i. Need for both wide and narrow view.

The iterative nature of the HSM is strengthened by the enhancements, and its potential for narrowing down the focus of planning (at stages 4-7, for example) and then broadening out again to place contributory options into the wider set of objectives seem to capture the essence of the mixed scanning approach.

Problem area f). Example i. Keeping plans on target, inter-organisational control.

NHS strategic planning is a highly complex activity modelled on rational comprehensive lines which have needed to be adapted to meet the demands of external disturbances, inter- and intra-organisational tensions, uncertainties about causal relations, diversity of values and resistance to change. The need for more adaptive, participative and reflective planning, noted in the NHS corporate strategy and identified by Foster et al. as essential for plan effectiveness, is embraced by the enhanced HSM approach. Indeed, this is the major difference between that approach and a straightforward rational comprehensive planning model which confines planning to planners, and seeks optimal technical solutions to messy organisational and human problems.

Further references which are relevant to problem areas e) and f) include Gibbs (1978), Clarke and Wilson (1984, 1985) and Rathwell (1984).

4.5.2 Summing up Step 5

This completes our efforts in Step 5 to design some changes to the NHS planning system using the enhanced hard systems model of planning. We have explored the effects which a planning system structured like that in Figure 4.4, and involving processes such as those in Figure 4.5 could have on some specific problems which exemplify more general problem areas. Essentially we are interested in a new approach to planning at the regional and district level, which could be developed independently of the technical arrangements and planning guidance decided by the Department of Health. However, both the introduction of any such changes, and their continued operation, depend on a full appreciation of their implications for planning, management and organisational culture. Before considering some aspects of their implementation, the 'feedback check' on Step 5 is undertaken to confirm their systemic desirability.

One of the feedback checks on the output from Step 4 summed up the systemic reasons for the planning 'failures' - perhaps better termed 'shortcomings' - which were represented by the problem areas and concerns. We can check whether the changes which we have subsequently suggested at Step 5 will improve some of these aspects (or at least not exacerbate them), by considering the effects which our changes would have on the systemic shortcomings of planning processes represented by Problem areas a)-d).

With regard to Problem area a) our design suggestions identify ambiguities in the objectives held by different levels, and aim to address this aspect. For Problem area b), the suggestions are along the lines suggested for Step 4, although communication and control aspects received relatively little attention. We can consider these further at Step 6, in the context of implementation.

To make headway with Problem area c) we need to consider the problems of modelling, testing and implementing participative planning which involves doctors, in Step 6. For Problem area d), again our suggested changes are congruent with Step 4 feedback comments, and in Step 6 we will need to address the issue of helping the stakeholder groups at different levels to stand back from short term and technical problems, examine planning processes and objectives, and then re-address specific aspects.

Thus the suggested developments to the planning system at least do not appear to have systemic disadvantages over the present arrangements.

4.6 STEP 6. IDEAS FOR IMPLEMENTATION OF THE SUGGESTED CHANGES TO THE NHS PLANNING SYSTEM

Here again, we will confine our analysis to the problem areas and general concerns identified at Step 4, exemplified by (but not exclusive to) the experiences observed in Trent RHA. We need to be continuously aware of the feasibility (in practical terms) and acceptability (in organisational cultural and 'political' terms) of the suggestions. Thus our feedback check for Step 6, set out in the diagram of the analytical process in Chapter 2, Section 2.6, will be integral to the examination of each of these problematic examples.

Problem area a) The need to find appropriate techniques, to combine rational and quantitative planning with organisational and behavioural complexity.

Example i. Problems with 'top down' programme budgeting:

- Programme budgets could be used in a way which builds in autonomy for districts, units and sub-unit levels, by providing the inputs to, and defining the desired outputs of, black boxes containing autonomously-managed processes. Negotiation could take place over these inputs and outputs, with direction from higher levels if necessary and a more explicit recognition of common and separate objectives. A way to enhance 'holding on and letting go' implied by general management.

- A new regional role of catalyst for devolved planning, and provider of training in special skills, would strengthen the case for the continuation of a regional planning function, and provide them with opportunities to research and develop new tools and techniques to tackle complexity etc.

Example ii. Marrying regional interests and district needs:

- If the region's 'technocratic' top-down approach is modified, developing a design rather than clinical and research approach, districts and units may ask 'what's in it for us, what's the catch?' of new approaches. The region needs to go through the HSM process and examine the objectives, options etc. of less paternalistic approaches, ensuring that it considers the viewpoints of the lower tiers and important stakeholder groups as it examines the options.

- As a broker of good ideas and information, the region will mostly need to act as a facilitator rather than a do-er. It will need to approach the development of this new role systematically and systemically, looking at ways of disseminating ideas and encouraging their take-up more successfully than is sometimes the case with regional initiatives. Trent's strengths in relation to quality assurance could provide it with some ideas for encouraging innovations in planning, too.

<u>Problem area b) Major data and information requirements especially for monitoring the implementation of plans.</u>

Example i. Reluctance to use quantitative information, especially in some districts:

- In seeking to improve the quality rather than the quantity of the data it amasses for planning, the region could develop some information systems and applications appreciated by each tier for monitoring change and strategic progress. Developments in clinical information systems will be particularly important. It will also be necessary to address the problem (a national one) of numeracy and information use by managers, primarily through training.

Example ii. Lack of data for key strategic developments:

- Here we have not considered changes in depth, but should note that the organisational and professional cultures and biases in management information systems may need as much consideration as technicalities of data collection and analysis.

Example iii. Difficulties in predicting and controlling activity levels:

- In seeking to work with stakeholder groups to enhance their appreciation of strategic issues, it will be necessary to make it worth their while especially in the case of clinicians. There is a system involved: achieving strategic objectives requires participation of all groups both to the objectives and the chosen routes to them; unless they value the concern for wider and longer-term plans, they will only feel committed to a narrow part of the strategic plans which may be counter-productive; unless they are committed, the plans will fail and stakeholders will be disenchanted with planning per se (as many are at present). The need to break into this cycle and steer it in a positive way is therefore most important, and it is towards this that the design and HSM approaches are oriented.

Problem area c) Strong environmental influences and control problems.

Example i. Problems in predicting and responding to increasing demands on resources:

- The greater awareness of systemic characteristics, environmental influences etc. will need to be developed consciously. A planner at Trent met during this research was applying Checkland's soft systems methodology, and another intuitively took a systems approach to much of his work, so this may not be too difficult to develop further if the potential benefits are recognised.

Example ii. Conflicting professional and mangerial values:

- The point at Step 5 about change management strategies is key. The problem of professional resistance is a major one, which needs to be addressed very carefully but not shied away from as often happens in the NHS (e.g. in the introduction of quality assurance, and clinical budgetting). A number of successful NHS examples could be adopted more generally, one significant characteristic apparently being the influence which can be exerted by 'champions' of involvement in managerial work such as planning, from within powerful sections of the medical profession.

Problem area d) Integrating plans for different timescales and levels; and e) and f) observations related to theories.

Example i. Approaches to reconciling region-wide plans for the strategic period.

- There are a number of separate implementation issues epitomised by this example, but a key one is that of implementing lots of separate parts of strategic plans, (each of which is subject to interruption and diversion), while assessing the significance of each strand to the strategic whole. Doing this at the appropriate level of detail over a long time period and across many levels, was only beginning to be addressed by the work on the NHS corporate strategy, and it seems that this overall complexity of strategic planning in the NHS may have contributed to the present hiatus in developing the system further. However, the distinction of policy aims and related service objectives in central planning guidelines is a helpful contribution, provided that it incorporates appropriate degrees of autonomy. For lower hierarchical levels, a mixed scanning / HSM type approach should develop the capacity to relate current and local planning activities to the strategic whole, which should improve their effectiveness.

Insights into implementation relevant to the recommendations from Step 6, may be found in: Candlin (1989), Lee (1988), Mushkat (1987), Eden and Huxham (1988).

To conclude Step 6, whether the changes to planning systems are major or incremental, an iterative approach (regardless of its detailed steps) will better cope with changing situations over time than a linear one. The development of tools and systems for monitoring plan implementation continuously and instigating control action is therefore not a task to be undertaken lightly; almost all of the examples discussed above indicate its complexity. Some of the practical aspects of control for both strategic and everyday activities are the focus of Topic 2, to be analysed in the next chapter, so we will not consider them here.

This completes our consideration of some issues raised by the implementation of changes to the NHS planning system suggested in the analysis of Topic 1. Summing up, the changes could be introduced as developments of existing practice rather than wholesale novel systems. But the success of most of them may rest on the key aspects noted by Ackoff and Foster et al., which we incorporated into the hard systems model, namely: a participative, iterative and holistic approach to planning health care. If these characteristics are not developed, there are many ways in which planning could be improved technically, by increasing modelling and the setting of quantitative performance measures for example, which are consistent with the HSM. But these technical developments will not be adequate improvements to the rational comprehensive model if it is to be the basis for effective planning in the NHS.

4.7 STEP 7 - WHAT IMPACT MIGHT THE CHANGED PLANNING SYSTEM HAVE ON PLANNING IN THE REAL WORLD?

Steps 5 and 6 discussed what an NHS planning system modelled on the 'enhanced' HSM might look and behave like. The implications of a changed system on some specific examples from Trent of problems with the current system were explored. But what impact might it have the NHS as a whole? How far can we generalise from Trent's experience? One of the processes undertaken during the analysis of Topic 1 was to draw some more general comparisons between a view of the formal NHS planning system, from a planner's perspective, and the stages of the hard systems methodology, based on all of the available data. Here we turn to the questions posed in making that comparison and, in a 'question and answer' format examine how the answers might change if the planning system were structured and operated on the lines of the 'enhanced' HSM.

1. How well do actors appear to understand the structure and behaviour of the system?

Original observations suggested that regional and district planners had a good grasp of how the whole planning system works, including interactions and aspects of organisational politics. More dispersed planning responsibilities and skills, which embraces a systemic understanding of the planning opportunities, problems and context, should improve understanding of structure and behaviour among a wider range of participants at each level where it is applied. Training, and a visible commitment of higher levels not to override the contributions of lower levels, would be most important.

2. Are objectives and constraints consciously identified (and if so, what sort and whose?)

3. What are the implications of this?

Earlier when asking these questions, the links being developed between individual and organisational planning objectives through the individual performance review process were noted (NHSTA, 1986). So too were the constraints on managerial action which arose in particular from central policy changes. It is unlikely that changes in the planning system within the present (pre-1989 White Paper) NHS structure could reduce the political influence of the centre on the regions and districts, although it could contain some of its disruptive effects. Awareness of such problems among civil servanst was observed, but their impact on Ministers may be limited. A more robust and reflective approach to long and shorter term planning could, however, better enable local planners and managers to cope with the disruptions. For example, they would be more aware of the constraints on the feasibility of plans, and have more models available to assess the impact of central (and environmental) changes. The participative process should have exposed, if not resolved, differences of interests and values of stakeholder groups.

4. Is the 'triangle' of objectives and constraints, measures of performance, and consideration of options in the HSM a core feature of the planning system too? If not, how and why not?

The original comparison indicated that while this triangle is at the heart of the option appraisal system (DHSS, 1987c), it is less central to other parts of the planning system, and indeed is less appropriate for strategic planning to specify detailed options and targets. But by incorporating the explicit identification of measures of performance which relate to objectives, the HSM gives local planners and decision makers ready-made ammunition to defend their plans in the face of new and uninvited options, or to make a sound case for resources. If regions and districts had at least shown that they intended to apply these steps for the strategies and shorter term plans for their component care groups, those developing the NHS corporate strategy might have had more confidence in their prospects for maintaining progress in the intended directions.

5. What sort of modelling (in the sense of exploring alternative routes to objectives/ predictive analysis) appears to take place in the process of NHS planning? Does it appear to lead to a re-examination by those involved in planning, of their understanding of and assumptions about planning problems?

6. How are the results analysed? and are such processes directly related to objectives and measures?

The intial examination revealed relatively few signs of modelling especially at the district level. The HSM-based approach would encourage a wider awareness of the potential benefits from modelling at all levels, and an increase in skills. However, it is more important to disperse an interest and confidence in simple modelling throughout the organisation, as an aid to understanding and participation, than to seek more sophisticated models. Several writers mentioned in Steps 5 and 6 have stressed this.

7. Is the evaluation of any such models reflective, iterative? For example, might it feed back into the description or objective setting phase if it revealed that some significant objectives seemed unattainable or highly constrained? Or is the choice of options highly routinised, not allowing for iteration and reflection? Does implementation/ evaluation lead back to the perception stage?

Under the current planning arrangements, iteration will frequently occur although not necessarily because it is regarded as desirable. For example, in short term planning, where a unit's bids for resources for desired developments cannot be accommodated, the unit and district may disagree over how to choose between priorities and district objectives may be re-examined or the unit may be told to re-examine its descriptive analysis ('how heavily used are those clinics now?') with a view to revising its plans. The corporate strategy suggested that regions (and by implication, districts) had not iterated or adjusted plans which were coming to be seen as unattainable. Local consultation, and the need for approval of plans by the DHA, RHA or DHSS, may force iteration if long or short term plans are rejected.

Clearly the changed approach would place greater emphasis on iteration and reflection; perhaps a direct link from HSM stage 7 (evaluation and selection) back to stage 3 (identification of objectives and constraints) would reinforce this. An organisation which has 'learned how to learn' (a concept from the work of Argyris, introduced in the next chapter), would incorporate such processes over many different timescales.

8. How much attention is paid to implementation at earlier stages?

9. How far is the implementation phase designed to be a learning process?

Observations suggested that attention was limited, confirmed by the work for the corporate strategy. Learning was primarily forced by constraints, and potential problems in controlling implementation were often overlooked. The enhanced HSM would encourage more involvement of planners in implementation, and of stakeholder groups in planning. It should reduce the separation of implementation from the rest of the process whereby planners can hand over unrealistic plans for someone else to deal with.

Some aspects of organisational learning and controlling implementation will be considered in the context of Topic 2 in Chapter 5. Nonetheless, at the beginning of Step 2 we defined the problem to be addressed by the HSM as 'implementing current NHS strategic plans, and preparing for the next strategic planning round ...' and it is fair to say that so far we have suggested changes which could only slowly affect implementation. Several writers in addition to those mentioned in earlier sections have suggested routes to more effective implementation - Mooney (1984) and Rathwell (1986) in health service contexts, and Warfield (1983) and Bevan (1983) in more general terms.

10. Could wider participation in planning at any stage be seen as desirable? If so, in what ways?

Participation is rarely actively encouraged at present; consultation procedures for long and short term local plans rarely receive much publicity unless they involve closures of facilities. While the new approach to planning would logically embrace some increase in participation, like the above points this would depend on considerable changes in organisational culture and climate for many health authorities, and the centre does not seem to favour greater participation in decision-making (although encouraging participation in the actual work of caring). Factors contributing to successful locality planning, patient participation in general practice and long-stay care, and some examples of quality assurance could each provide ideas for incorporation in the new model.

To conclude Step 7, we have identified some potential 'improvements' in the comparison between observed practice and that which the HSM-based planning model is designed to foster. So far it has only been possible to check the validity of these conclusions against a small amount of data. It would be feasible to obtain some feedback about the suggestions for change from people in the field, especially those from whom data were collected or who have been involved in relevant activities. We will summarise and reflect on the recommendations from this analysis, in relation both to the topic subject-matter and the model application, in the final chapter.

Thus the main improvements which the enhanced HSM-based planning system is designed to introduce to the existing system as it has been observed, are:

- greater commitment to planning processes and outcomes, through dispersal of planning and participative practice;
- greater awareness of differences in the values, interests and objectives of stakeholder groups, and therefore potentially more equity;
- an improved capacity to monitor and control plan implementation through the explicit identification of objectives, use of measures of performance, modelling of options and the effect of changing internal and external conditions;
- a strengthening of the features which have been found to contribute to success in strategic planning and implementation, on which the NHS was weak;
- the incorporation of planning into the wider practice of organisational learning, and a more holistic appreciation at all levels of the needs of staff, patients and the community which the organisation can hope to satisfy.

These points will be relevant to the other performance related topics. The final step which we explore in this chapter is Step 8, an initial evaluation of the modelling approach. Then the two strands of output from Steps 7 and 8 - recommendations about the topic and the methodology and models applied to it - will feed into Steps 9 and 10 in the concluding chapter.

4.8 STEP 8 - INITIAL EVALUATION OF THE APPLICATION OF THE HARD SYSTEMS METHODOLOGY TO TOPIC 1

Many of the same considerations apply to this step as to Step 7. The arguments of Rathwell (1986) and Tomlinson and Dyson (1983) can be interpreted in support of the form of the HSM-based model and the general modelling approach respectively. Here we will simply pose the questions which were listed in Chapter 2, Section 2.6.4 which provide some criteria for judging the 'success' of the modelling process more or less subjectively.

1. Does the model shed enough light on the problem areas identified for the topics to be worth the effort?

Answer: a qualified 'yes', as the analysis was applied to a small number of examples. The insights were greater in some cases than others; more detailed data, and further questioning of those interviewed, could enable some more firm conclusions to be drawn, and practical applications to be explored seriously.

2. Does it shed light on the original key questions, colloquial concerns, noted in Chapter 1?

The colloquial question - remarking on the way that messy interconnections and surprises featured frequently in the NHS - has been addressed from the viewpoint of planners who have to work with these problematic features. The aim has in part been to make their work more productive in spite of these features, which are always likely to characterise such a large organisation. Imagining that the person posing this question was, say, a new junior nurse, if we could use the structure of the new HSM to explain to them how some planning problems are tackled and where they could contribute, it would prove its worth.

The key research question - how are models used in policy making and implementation? - has been answered in passing but not on the basis of a comprehensive study. We noted evidence from interviews that explicit modelling for decision-making (quantitative or qualitative) did not take place when one might have expected it, and considered that an exploration of 'mental models' of policy makers would be interesting but difficult. This question deserves to be posed again and given full attention in its own right, drawing on other recent research in various disciplines including systems and policy analysis.

3. Does the model include all elements of the system deemed to be important, and can omissions be justified logically?

Answer: this is hard to assess subjectively, it would be better to obtain a second opinion - and this too would rely on subjective judgements as to what was important. However, earlier iterations have sought to develop the model (as in Step 5 and the verification and validation processes). More consideration of how an HSM-based model can deal with uncertainty, messes and politics is needed.

4. Has the model operated at an appropriate level of complexity, detail, and hierarchy? If not (thereby limiting the value of the outcome), could it be operated more effectively at other levels?

Answer: It has been necessary to consider all major hierarchical levels, while trying to adopt a generalised perspective of a planner at regional or district level - an ambiguous perspective which would need to be disaggregated in a more detailed study. Similarly, the amount of complexity considered was if anything too high for this study.

5. Has the model reflected accurately enough the internal and external factors which affect the system's output?

Answer: At the chosen level of detail, enough factors have been considered. Their accuracy is hard to judge with mixed sources of data in varying quantities. It would be interesting to give consideration to the rest of the factors conducive to effective planning identified by Foster (see Step 5) in relation to the NHS planning system, for example, which would require more data.

6. Has the model indicated in a definable way what would happen if one did something specific to the system of interest?

Answer: most of the indications have been fairly general but have aimed to link interventions to specific examples of problems, and speculate about their outcomes based on the logic of the model and available data. The projected effects could, in some cases, be modelled in more detail, especially with more data.

7. Are the conclusions logically and rationally derived from inputs to the modelling process, as opposed to unsubstantiated analyst bias?

Answer: bias can never be discounted, especially as it is the analyst who chooses the inputs here. Material from secondary sources has been used both to corroborate and probe the analysis, and more material could usefully be employed to complement primary data.

This concludes the analysis of Topic 1 for Chapter 4. Some final conclusions are drawn in Chapter 8 when Steps 9 and 10 of the analytical process are taken, and some links are made between this and other performance related topics.

CHAPTER 5. CONTROLLING PERFORMANCE THROUGH STRUCTURE AND PROCESS

5.1 INTRODUCTION

Chapter 5 is based largely on empirical material gained from questionnaires and interviews. It examines NHS annual performance review processes as they operate nationally and locally, and some of the uses of performance information within these processes, which are far more concerned with structure and process than outcomes of care. Whereas the other performance-related topics are fairly well supplied with secondary material - books, journal and conference papers, items from the mass media and from the NHS itself - the nationwide annual review process is relatively undocumented. Therefore, before developing a model and applying it through the ten-step analytical process to some particular aspects of routine performance review from Section 5.6 onward, the first five sections present a description of the operation of the national annual review process and perceptions of its value, and some key sources of data for control. Table 4.1, introduced in Chapter 4, is drawn on for reference from time to time.

The comparative lack of published information about the annual review process might seem surprising, as it has been in operation for about seven years and has been the cause of expressions of considerable optimism. For example, opening his address to a joint DHSS/ Royal Institute of Public Administration seminar on 2 December 1983, Sir Michael Carlisle (chairman of Trent RHA) said:

> The Review process has been described as one of the most interesting developments in the history of the NHS. ... The recent Griffiths report refers to the Review process as a powerful management tool. ... we must assume the Review process is here to stay and I hope that I shall demonstrate that it offers the best hope for ensuring progress is made despite all the caveats and rather negative comments... The introduction of the Review process breathes life into a system filled with empty terms such as 'monitoring progress'... . (Carlisle, 1983).

But already we find here a hint that the review process was regarded as a mixed blessing. This chapter illustrates how perceptions of the process held by those involved, at each level from the DHSS to districts, have gradually (and, we could say, grudgingly) become more accepting. The review arrangements have changed more quickly, as the next section will demonstrate. Perhaps the lack of documentation reflects several factors. The system's frequent changes mean that detailed accounts would rapidly be out of date. Whereas NHS planning can be discussed in the context of a considerable body of theory and comparative empirical material, comprehensive performance review systems are less well supported by theory and, it seems, comparative data. Perhaps the review system developed in England does not have many parallels, and is an anacronism; or perhaps it is simply regarded as a routine administrative procedure of little interest outside staff manuals. And as comparatively few NHS staff are practically involved in review meetings and preparation, it may not even excite much attention there.

Nonetheless, as a development contemporary with the undertow of the 'wave of performance evaluation' noted in Chapter 1, the review process has played an important part in accountability and control throughout the English health service in the 1980s. Its role may change with the implementation of the 1989 NHS White Paper, as far as regional and especially district health authorities are concerned, but is unlikely to become redundant. Drawing on circulars and a few secondary references, but primarily upon data obtained through questionnaires and interviews, we will try to assess how far Carlisle's hopes for the invigorating potential of the system have been borne out.

5.2 THE ANNUAL REVIEW SYSTEM - ORIGINS AND EVOLUTION

5.2.1 Origins

Reference was made in Chapter 1 to the introduction of annual reviews of the English health authorities following growing parliamentary concern over financial accountability, lack of progress in policy implementation, and an increasing interest in the performance of public services generally. Table 4.1 shows some important elements of the review system as it had developed by 1988, and in this subsection we will consider some of the early steps in that development, in chronological order. We will also note some key stages in the development of performance indicators, because of their close links with the review process.

1981 Circular HN(81)4 'Health services development: review of the NHS planning system - a consultative document' proposes 'Annual review meetings. The region would meet each of its districts at least once a year to review strategic plans, which should be updated and amended as necessary, and, to settle priorities and action for the future on the basis of the district's forward programme. The department would hold planning review meetings with each region once a year to consider progress in the development and implementation of strategy.' (DHSS, 1981b).

1982 22 January. MP Edward DuCann, in a parliamentary question, asks the Secretary of State for social services what action he proposes to take in response to the comments in the 17th report from the committee on Public Accounts about the need for greater accountability of English health authorities to Parliament.

Mr Fowler replies (in a written answer):

'I am introducing new arrangements to ensure better accountability for the NHS. I believe that it is both desirable and practicable to secure the maximum delegation of responsibility for the delivery of local health services to DHAs while at the same time achieving true accountability from the district authorities through the RHAs.

Accordingly each year ministers will lead a departmental review of the long-term plans, objectives and effectiveness of each region with the chairmen of the regional authorities and chief regional officers. The aims of the new system will be to ensure that each region is using the resources allocated to it in accordance with the government's policies ... and also to establish agreement with the chairmen on the progress and development which the regions will aim to achieve in the ensuing year. Successive reviews will thus enable ministers to measure the progress made by regions against the agreed plans and objectives, as well as to determine action necessary in the year ahead.

The new system will be established in 1982/3. My department is also conducting a pilot scheme in one region using indicators of performance in the delivery of health services. These will enable comparison to be made between districts ... With these arrangements I shall be able to hold RHAs to account for the ways in which resources are used in their regions and for the efficiency with which services are delivered. In turn, the RHAs will hold their constituent DHAs to account.

The reviews will concentrate on major issues, leaving DHAs with the primary responsibility for decision-taking in providing local operational services within agreed policies.'

1982 March. Circular HC(82)6 'Health services development: the NHS planning system' introduces the revised arrangements for NHS planning, including changes to the review process envisaged in the consultative circular in the light of the Secretary of State's announcement. RHAs are told to:

'... review district planning in the context of consideration of the district forward programme. The RHA should compare the DHAs' progress and proposals with the agreed strategy. They should take the opportunity to look into any apparent discrepancies between DHAs' standards of performance and to satisfy themselves that the strategy is designed to tackle these. Matters requiring further comment or explanation may often be resolved informally. Unresolved matters or any more general issues, should be discussed at an annual meeting between the two authorities and resultant action identified. ...

... the department is augmenting the existing interchanges on regional plans with a ministerially-led review each year ... The department will discuss with each RHA ... the necessary preparation, so that the ministerial meeting cn take place against a background of agreed relevant factual material identifying salient trends and issues.

> Review meetings will deal not only with overall aims and the prospects of fulfilling them, but also with the ways in which resources are used throughout the region and the scope for getting the best possible value for money. RHAs have an important role in helping DHAs to evaluate their performance, in the light of their contacts with districts and information flowing from, for example, Health Advisory Service, Development Team and audit reports.' (DHSS, 1982a.)

So the scene was set, ready for when the reorganised NHS structure took effect (as in March 1982 the DHAs were still only 'shadow' authorities). By February 1983 the DHSS told a seminar of NHS treasurers that the first round of regional reviews had been a success, and that district reviews by regions would follow a similar format - annual chairman-to-chairman meetings with papers agreed in advance. In future, action plans would be published after the meetings setting quantified tasks for regions to undertake. Simkins (1983) reported that 'the department maintains that the reviews have not been one-sided inquisitions but dialogues, and nobody at the seminar challenged this. ... Performance indicators [PIs, which had been introduced experimentally in half the regional reviews] are an accountability technique on which a lot of work has to be done ... Already the initial 12 indicators chosen have been found to give unreliable results, and a much larger number of indicators have been introduced ... There was also evidence of a will to make the review system work'.

Further positive assessments followed - in the seminar mentioned earlier, Carlisle referred to the proceedings of district review meetings as incisive, numerate, the preparation having useful self-appraisal value for DHAs, leading to many tasks successfully performed despite over-ambitious timescales. He warned of some potential pitfalls - pre-meeting 'officer collusion', an abrasive and dictatorial rather than self-help atmosphere developing, PIs being used to draw inappropriate conclusions or not being properly developed. (Carlisle, 1983) These, however, were outweighed by many advantages, some of which were also perceived by another speaker at the seminar, a DHA chairman from Mersey region which had piloted the district review process. (McNamara, 1983). He welcomed the prospects for greater accountability, but felt the process chosen was a 'manifestation of a growing centralist tendency', undermining the responsibilities of DHAs as the chairman's role brought them closer to the officers and isolated them from HA members. Greater clarity on NHS management responsibilities, central policy priorities, resource availability, local health needs and 'consistency of purpose at regional and national level' were required before the review system could achieve its objectives. Further prerequisites were organisational stability, and a solution to 'the basic dichotomy ... between the concept of clinical freedom and resource management' which perpetuated the lack of accountability of doctors. McNamara identified some issues which have subsequently been widely debated - that the review system must become an integral element in the total NHS management and

planning process; that the tendency for relations between NHS tiers to be adversarial must be resisted; and that commitment, co-operation and partnership were required for the review process to help health authorities provide the best possible care.

Unfortunately organisational stability was not to be granted. We will note some more changes in management and review arrangements between 1984 and 1988, before considering perceptions of the relations between tiers and the changing content and value of reviews.

5.2.2. Evolution, 1984-1988

The Griffiths report on NHS management recommended that following the introduction of general management the accountability review process should be extended right through to unit managers. The process was seen as

> ... a good, recent development which provides a powerful management tool. But the management task is so demanding and continuous that, without moving in the direction we are recommending, it is difficult to see how this process can be sustained effectively given the other pressures on ministers and senior officials. The review process needs to be extended beyond districts to units of management, particularly the major hospitals, and it should start with a unit performance review based on management budgets which involve the clinicians at hospital level. Real output measurement, against clearly stated management objectives and budgets, should become a major concern of management at all levels. (DHSS 1983, p.12).

In June 1984 the DHSS required health authorities to commence implementation of the Griffiths report's recommendations, to be completed by the end of 1985. During this period, little progress was made in the involvement of clinicians and the development of management budgets - indeed, progress is still patchy. However, as the district review process became established (and some indication of the issues covered in 1985-6 will be given in the next subsection), attention turned to unit performance too. Information is not available about the precise patterns of unit review adopted, but many districts appear to have developed a more informal and continuous approach rather than the once a year (or in a few regions, biannual) formal meeting which districts have with regions. Of the nine regions giving full replies to the 1986 questionnaire described in the next subsection, the 1985/6 annual reviews referred to formal unit reviews in only one (Yorkshire). At least in the early years of general management, senior district officers (and occasionally DHA members) may have met with unit managers several times a year to discuss progress on plan implementation, capital schemes, clinical policies, budgetary and manpower control and the like. A few units have extended the annual review approach down to departments, such as Derbyshire Royal Infirmary's 'ARP' which we will meet later in this chapter. As

general management has become established and more functions - personnel, accounts, quality management - are devolved, it seems likely that where district-unit reviews occur they will concentrate on policy-related areas, and the involvement of clinicians will be particularly important.

Turning to the organisation of the review meetings, a pattern of agenda-setting has developed in many places where the DHSS, region or district invites the organisation being reviewed to submit agenda items of their choice, although this is often limited to a few items or non-contentious issues. Agendas inevitably have tended to be too long, including many complex and very important issues; pre-meeting clarification of the nature of problems and the restricting agenda items to those which cannot be resolved informally has come to be seen as desirable rather than stage-management. District and regional reviews have nominally involved health authority members as well as chairs, but this involvement has remained under-developed (Ham, 1986).

Follow-up from annual review meetings has a number of forms. An action plan is generally sent to the regional or district health authority chairperson, detailing agreed tasks for the lower tier and dates for their completion. (Early problems of action plans not being received by districts until after some of the deadlines on them, seem to have been resolved!) The action plan is usually presented to the health authority, who may also be kept informed about its implementation. Once ratified by ministers and chairs, regional action plans are published and placed in the library of the House of Commons. Joint 'ownership' of tasks seems to have developed, especially in those regions or districts where a non-judgemental and learning-oriented culture has grown; this will be discussed in the next subsection. There is usually a mixture of in-year progress reporting, discussions between functional heads at different levels (which also takes place more generally especially between planners or treasurers in a region, and between regional heads and appropriate NHSMB members). Exception reporting has become common as the number of tasks has grown and managers have accepted that unless the following up of review tasks is manageable it is of little use. Some regions are developing computer-based monitoring systems for internal or interactive use; as with planning, patterns of regional intervention and assistance to districts in accomplishing tasks vary. Other forms of in-year monitoring have developed in the past few years which complement the review and planning process (to be discussed in Section 5.4). Performance indicators have been used in the review process since its inception but are of little value for in-year or unit-level monitoring.

For several years FPCs have been subjected to a rudimentary performance review by ministers and civil servants, and a small package of performance indicators has been developed. This process is likely to become more thorough and effective as the role of FPCs as management bodies changes; so far, some FPCs have been far more proactive than others. For example, Cheshire FPC and Mersey RHA have experimented with a service assessment of FPCs at the same time as the region reviews the Cheshire DHAs. The aim is

to improve co-ordination between FPC and DHA services and their links with local authority services, and to explore means of using RHA resources such as the supplies service to improve FPC cost-effectiveness. (Hospital and Health Services Review, Nov. 1987, p.279).

In 1986 the regional review system changed quite significantly, as Figure 5.1 indicates. Instead of a single meeting between a minister and regional chairman (supported by a fairly small team of civil servants, and senior officers and RHA members respectively), there are now two annual review meetings. It had been difficult to find time to cover operational as well as strategic issues in the accountability-oriented ministerial meeting, so with the advent of the NHS Management Board a separate 'performance review' meeting between Board members and RGMs and senior officers was established.

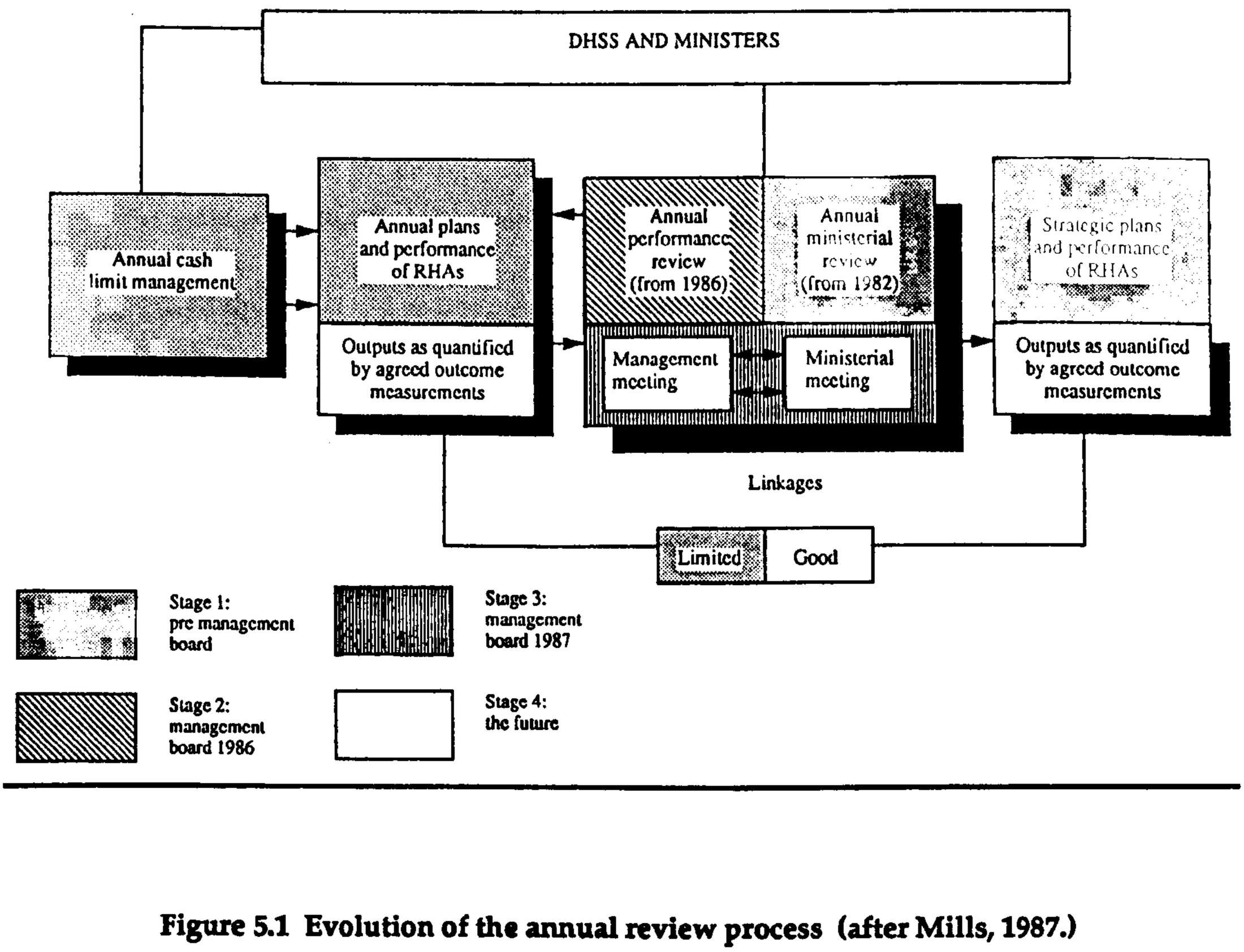


Figure 5.1 Evolution of the annual review process (after Mills, 1987.)

Because of the timetable for short term plans, meetings held early in the year tend to focus on the STP about to commence; later ones refer to the latest out-turn reports of the previous plan. The 1986 pairs of meetings tended to be rather poorly linked, with inconsistent agendas, often spread out over a long period or in some cases not all held. In some cases the ministerial review preceded the performance review. In 1987 efforts were made to link them more effectively, and the retitled 'management meeting' with the NHSMB and subsequent ministerial meetings were supposed to be closer in time. Of the nine replies to

the 1988 questionnaire about the review process (to be described in the next subsection) the two meetings were at most four months apart, many being closer; and most action plans followed in four to six weeks.

There were apparently some changes of emphasis between the first few performance reviews in 1986 and later ones, partly related to the stage of the planning and outturn report cycle and the growing interest in PIs. The general intentions for the new performance reviews between NHSMB members and regional officers in 1986 were:

- to examine, in a constructive way, the contribution of short term programmes towards strategic goals, and the potential long term effects of problems in delivering short term plans (including the identification of potentially crucial 'crunch points');

- to seek explanations for failures to achieve service goals or cost improvements, (giving regions a policy 'steer' if targets were being missed);

- to assess the arrangements made by regions to monitor and control the implementation of districts' programmes and plans for regionally-managed services, and any plans for improving these arrangements;

- to examine the use of financial and manpower resources to achieve service delivery goals;

- to examine regional success in implementing new management structures and aspects of manpower planning;

- to demonstrate the use of PIs per se. Regions to report on their use of PIs in monitoring district performance, and on whether they monitor the use which districts themselves make of PIs; for some reviews, the NHSMB tested their PI expert system and asked regions to account for outlier positions, but for later reviews indicators were used by NHSMB to inform the discussion of other agenda items;

- to discuss regional progress on central concerns such as waiting lists and times, energy savings and management issues. (Sources: Mills, 1987; Fairey, 1986; personal communications.)

Five of the 'new style' reviews took place around February 1986, with the rest in the summer. Reflecting on the extent to which the first year's performance reviews had achieved some of these objectives the NHS director of financial management, Ian Mills, concluded that they had revealed too much ignorance about the processes by which operational (and ultimately strategic) objectives could better be met through improved financial control. While both regions and the DHSS had become more aware of whether or

not planned savings had been met, this was often too late to take action where there were problems; and successful routes to savings were not necessarily understood. It was of increasing importance to improve knowledge in this area as most service developments for the foreseeable future depended on cash released through efficiency savings and income generation. Thus a 'more vigorous approach to in-year monitoring' was needed, to increase control within and between NHS tiers, and to turn 'the short term programme into a more dynamic management tool' (Mills, 1987). Subsequent developments in in-year monitoring of income and expenditure are described in Section 5.4.

Ministerial reviews were now supposed to focus on strategic and political themes and major issues arising from the more immediate concerns of the management meetings. However, that this distinction was not always clear was revealed by responses to the 1988 questionnaire which showed that two respondents felt that there was little difference and that the ministerial review did not concentrate on strategic issues. To anticipate Section 5.3, two regional respondents' observations suggested considerable deviation from the intended purposes such that: one felt the meetings had not been very different in purpose although there had been an intention to make the ministerial one more strategic; another felt that while there was a difference of purpose, the ministerial review had been as focussed on details as the NHSMB, but on details of interest to the minister. These observations may reflect ministerial style as both these views came from regions reviewed by Tony Newton, then minister of state; however, other regions he reviewed felt the two meetings had been focussed as intended. Clearly there are many individual and organisational factors which contribute to perceptions of the purpose and value of such review processes. The behavioural issues which such questionnaire responses hint at will be explored a little further in the next subsection, together with other observations about the 1987/88 reviews of regions and districts.

Having indicated to regions in 1986 that the DHSS performance indicators were to be used in the context of other agenda items, the analysis of which they informed, the NHS director of planning and information technology told regional and district general managers that in 1988 PIs would again become an agenda issue in their own right. Their developing role will be discussed in 5.4, but here we will note the apparent desire during 1988 (when, it will be recalled, the prime minister's review of the NHS was still in train) to place NHS performance on a more public agenda. A booklet showing national variations in PI values had been published and was being publicised by the secretary of state in the national and local press. General managers were to present a report to their health authorities and MPs explaining the authority's position in the national rankings over the past four years including the indicators for 1986/7. Regions were required to prepare such an analysis prior to their performance review. (Meanwhile, the prime minister's review team had set civil servants the task of using the PIs to identify the 'ten best districts', which turned out to be far from simple even if regarded simply as a technical experiment).

The performance review format may well have altered again since the data collection ended, as the chairman of the new NHS management executive, former RGM Duncan Nichol, announced in March 1989 that agendas would be cut to four or five items - the key ones being public health, acute services, and quality of service. Possible changes in the short term planning arrangements, the availability of a limited set of PIs based on Körner data and preparation for the implementation of the White Paper are likely to alter the system further.

This section has addressed the developments over time of the arrangements portrayed in Table 4.1, which reflects most closely the position in 1988. A recommendation in the corporate strategy report (discussed in Chapter 4) was for strengthening the planning and review systems so that management objectives and responsibilities were clarified, strategies were oriented towards local needs, and the realism of both objectives and strategies could be kept under review. Was this a realistic recommendation? In the next subsection we will look in more detail at the areas covered by the review process and some of the perceptions of the value and purpose of annual reviews held by managers from different NHS tiers.

5.3 PERCEPTIONS OF THE ROLE AND VALUE OF THE REVIEW SYSTEM

The views of a regional and a district chairman introduced in Section 5.2.1, while both being enthusiastic about the system in its early stages, hinted at some of the problem areas which are perceived differently from the regional and district perspective. For example, Carlisle (1983) did not seem to share McNamara's concern about what is now widely seen as an issue of crucial importance - the need to control clinician activity in order to control resource use. As regions still hold consultant's contracts while districts bear the brunt of the effects of their spending decisions, (and units are, effectively, their employers - see Barrow, 1985) the review process offers a forum for the development of a shared appreciation of this potential problem area, which could be explored by each inter-level review cycle in turn. The risk of stage management which Carlisle feared has turned from a vice into a virtue, as the need for thorough and constructive preparation before meetings, with an openness about agenda items and attempts to minimise paperwork, have made meetings more tightly focussed. It appears too that they have become less 'abrasive and dictatorial' in many regions, with districts having less reason to complain about items being sprung on them without warning. This does not always apply, however, as in interviews with regional staff instances were recounted to me when the region was lambasted by a minister with a 'bee in their bonnet', and another region structured a review discussion so as to lull the district side into a false sense of security before putting them firmly on a very awkward spot. The action plans or letters following regional and district reviews can convey something of the atmosphere which prevailed in the meeting, although more recent ones which I have read tend to be generally more conciliatory.

Turning to another of Carlisle's fears, of the inappropriate use of PIs in reviews and other contexts, it seems his warning has been heeded. Regions such as Trent have explained quite fully the way they use PIs, as has the DHSS in its development of the PI expert system. We will return to PIs later in this chapter.

McNamara's (1983) concern about the marginalisation of DHA members has in some ways been confirmed. While Hambleton (1986) was optimistic that reviews could become 'an arena for fruitful exchange and dialogue ... in which the balance of power might be tilted away from officers and towards members' (p.64), both McNamara and Ham (1986) were concerned at the limited role DHA members played. (Ham's concerns were addressed to a number of other areas of member activity since the introduction of general management too.)

A series of articles in the Health and Social Service Journal in 1985 reflected the views of three managers from the regional, district and unit levels in the Mersey region as the system evolved, but before the full implementation of general management. (See Wood, Scaife and

Barrow, each 1985). They illustrated both some common problems borne out by observations from this research, and the extent to which regions, districts and units have evolved their own approaches to performance review over the past few years. Mersey was in the vanguard of regions employing a performance review officer per se, and later contributed both a widely-used training package on quality assurance and potential direct inputs, through a secondment of a senior officer to the NHSMB, to central developments of the review process. A Mersey district has written about its incorporation of complaints by patients into review evaluations (Watson and Davies, 1989), and other practical solutions to problems of implementing performance-related tasks may be diffused through the NHS by a variety of routes (as the analysis of Topic 4 in Chapter 7 begins to explore).

Based on his experience Len Peach, the former chief executive of the NHS management board (NHSMB), expressed the view that:

> the different tiers of management are increasingly accepting responsibility for helping resolve problems which they have highlighted or focused attention upon during a review. I know that my colleagues and I came away from the six management meetings we have attended so far this year with a clear sense that identifying the challenges facing individual RHAs was not enough: we [the NHS management board] shall have to play our part in helping them tackle the problems. This year there has been a demonstrable change in our relationship with regions with a willingness to eliminate the defensiveness which can be characteristic of these meetings - a sign of an increasingly mature management style. (Peach, 1987, p.214).

Before looking at the opinions of regional officers on several similar quotations about the maturing review process, we will turn to a survey of the content of reviews in 1985-6.

5.3.1 1986 Annual review questionnaire

As mentioned in Chapter 1, in August 1986 a questionnaire was sent to the 14 English regional general managers seeking information about trends in the process and content of regional and district reviews, especially the use of performance indicators and attention to quality assurance. A copy of the questionnaire form is at Appendix A. Regions rather than districts were contacted because it was felt they would be better placed to comment on the review process at each level. Also, compared to districts at that time, they had experienced fewer recent changes in senior staff and it would be easier for them to obtain documents about reviews over the past year or so. All of the eleven respondents sent one or more regional review action plans, for 1985 and/ or 1986. At that stage only four had had both the performance and ministerial reviews; some had not had an regional review at all yet in 1986 while others had only had the ministerial one. The action plans from regional reviews

all related to the ministerial meeting; although letters or action plans were believed to be produced after performance reviews they were not public documents. (One region did send a performance review action plan for 1986, but as it was the only one it has been considered separately if particularly pertinent.)

Ten of the eleven sent district review action plans too, for all or most of their districts. A total of 121 action plans (APs) were received out of 191 districts in 1986 (the eleven responding regions covering 142 districts). Some were for reviews in 1985, as the 1986 round had not yet been held in several regions. One region later sent copies of its 1987 action plans too, and where these revealed developments of interest they are mentioned separately.

Initially the regional and district action plans were scrutinised primarily to assess the extent to which issues related to quality of service had been raised. At the same time as this questionnaire was sent out, a separate one was sent to an officer in each region known to have quality assurance as part of their responsibility. That survey aimed to obtain information about the role played by regions and districts in the development of QA activities. Replies were received from 12 regions; the results will be described in Chapter 6.

Through direct questions, or from information contained in the annual review agendas (where sent) and action plans, the information set out in Figure 5.2 about performance monitoring in general and the review process in particular (Figure 5.3) was obtained. It must be remembered that because an item was not obviously included in an agenda or action plan, it does not mean it was not discussed or is not an issue of concern.

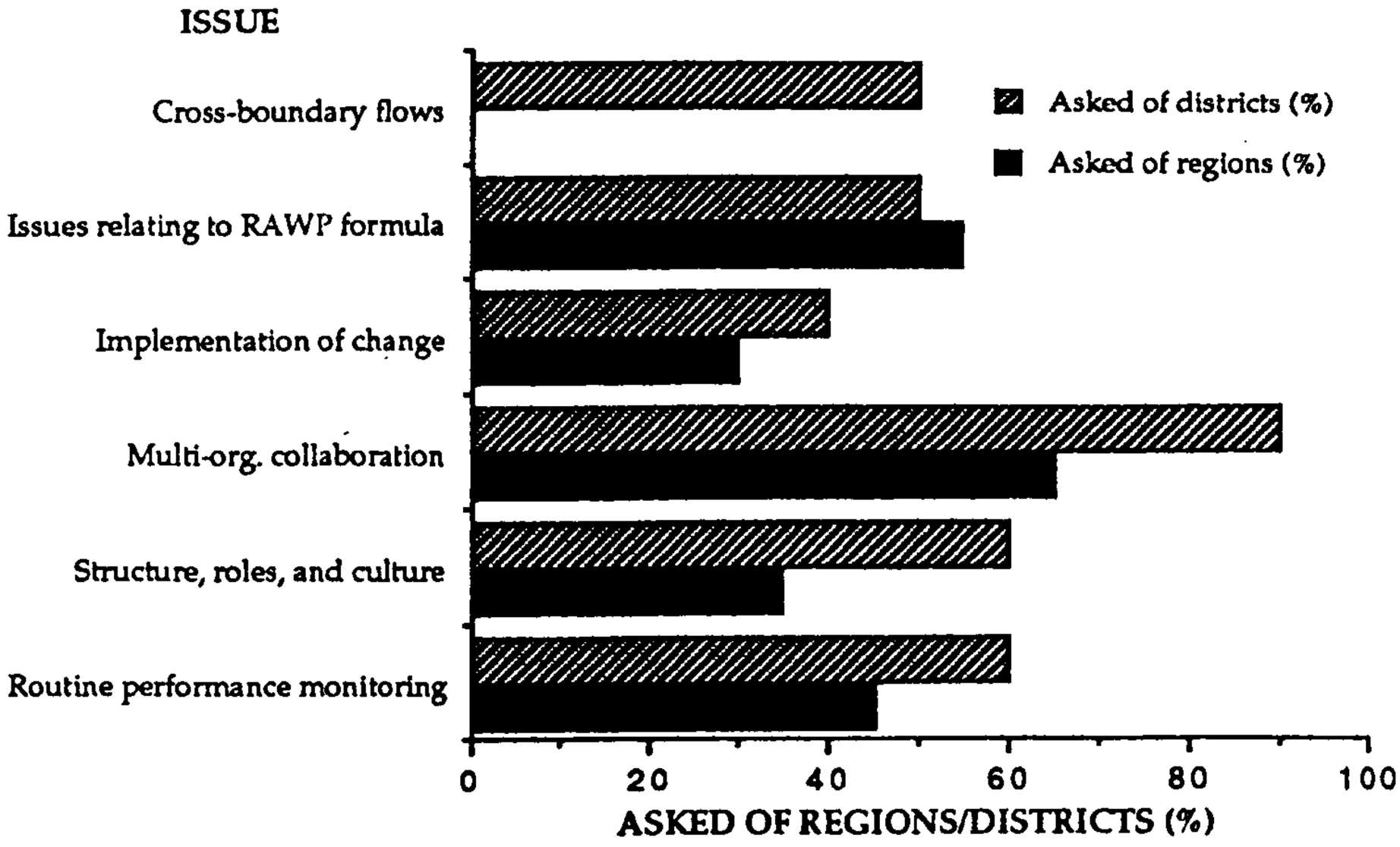


Figure 5.2 General issues about performance evaluation processes discussed in 1985/6 regional and district reviews.

Figure 5.2 illustrates the extent to which the review process was used by ministers to ask regions, and by regions to ask districts about organisational and managerial aspects of performance. Of the eleven regions from which replies to the 1986 questionnaire were received, ten sent information about their reviews of districts from which this bar chart and Figure 5.3 are derived. In the analysis of district review action plans it was noted where a region asked all of its districts about a particular issue. In the case of the six referred to here, a small minority of regions seemed interested in obtaining information about an issue from all of their districts but most discussions were district-specific. Of the issues most frequently raised with districts, multi-organisational collaboration (often in the context of care in the community) was discussed with most districts in three regions, but with a minority of districts in six regions and not at all, apparently, in one region. Seven regions in turn were asked about this by ministers. While it was perhaps not surprising that such managerial issues were more likely to be discussed at district than regional reviews it was interesting to note the apparent absence of discussion at regional level about cross-boundary flows of patients and/ or finance.

In addition to the data displayed in Figure 5.2, in the questionnaire 65% of regions reported having informal review systems or meetings with districts during the year, outside the annual review meeting. The questionnaire asked whether districts held formal reviews of units, but although only one replied 'yes', regions may not have had full information about this.

The analysis of action plans was an iterative process. After an initial pass through, once the eight performance-related topics were selected the plans were scrutinised again and each occurrence of a similar topic in a regional or district AP was recorded. It should be noted that this was a subjective classification, based on interpretation of action plan items which vary considerably in detail (although sometimes it was possible to augment this with knowledge of regions or districts gained through interviews).

To gauge the significance of the topics overall, the number of regions which were called to account on them by ministers was recorded. So too was the number of regions in which the topics were discussed with one or more districts according to local priorities and relevance. This is considered to be an adequate indicator of the importance of topics, rather than adding up the number of districts whose APs mentioned it, and the former implies more systemic significance. Even if the chosen approach reflects regional preoccupations, or pressure from above, this is still of interest, whereas the latter option may only indicate that a district was performing well or badly enough in relation to a topic at the time of the review and in comparison with others in the region, for this to be recorded in the action plan. It is not possible to tell from the material available whether the item was initially placed on the agenda by the minister, region or district, but it is the reviewer (minister or region) rather than the 'reviewee' (region or district) who draws up the agenda. Although there are generally many items which both sides would have wanted to raise anyway, items placed on agendas by reviewees are usually few.

The aim is to obtain an impression of the general importance of the eight topics with those who shape the review process, at the time of the 1986 annual review meetings, or if these had not yet been held, the 1985 ones. Where a region raised a topic with all of its districts, this was noted in the analysis; only in the case of Topic 1, strategic planning, did a substantial number of regions (7 out of 10) raise it with all of their districts. The 'popularity' of that topic at both levels was unsurprising as plans had recently been completed. The results of the analysis and classification by topics are set out in Figure 5.3.

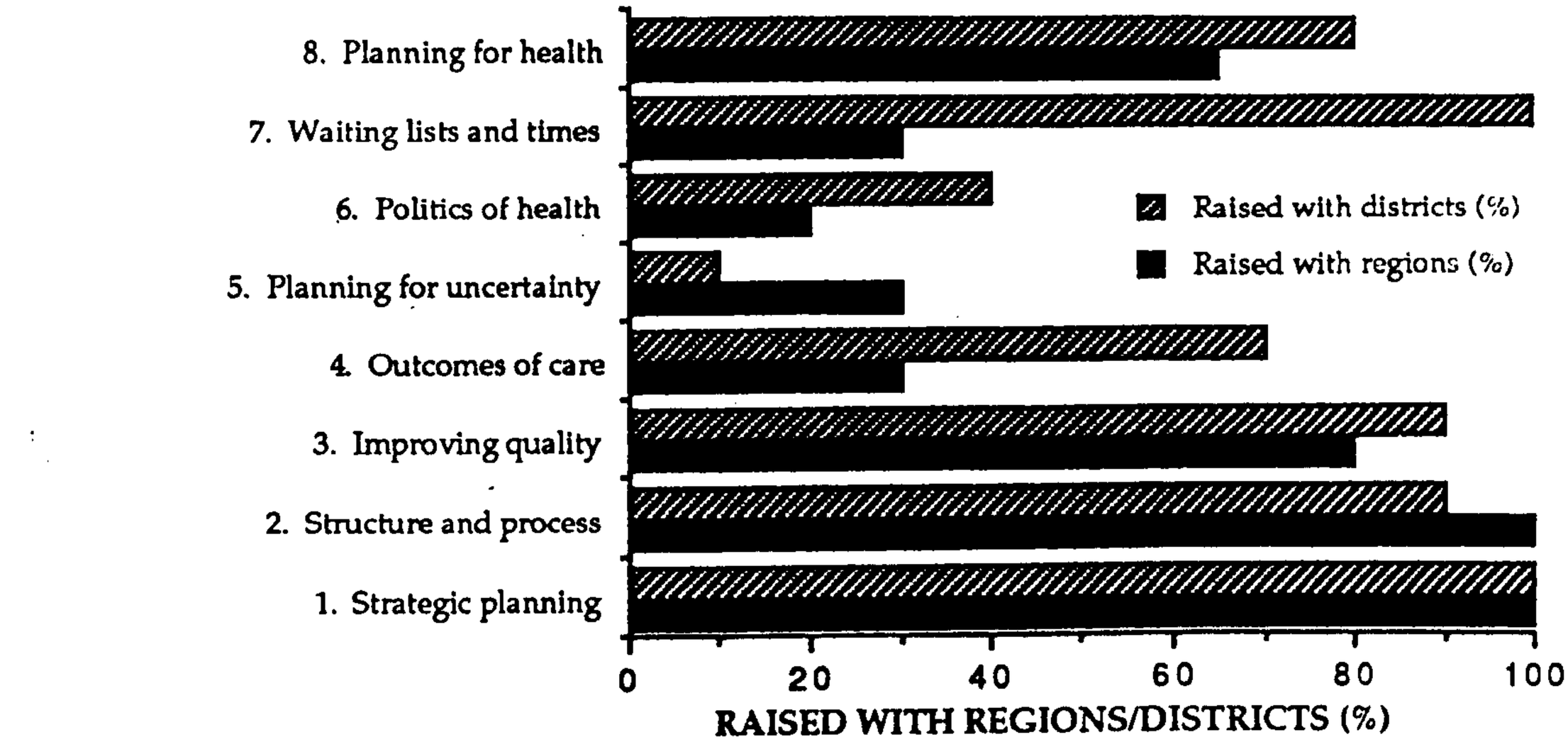


Figure 5.3 The importance of the eight performance-related topics in annual reviews, 1985/6.

Under Topic 2 were classified action plan items relating to financial and manpower control and performance indicators (PIs), the latter being the subject of a routine question to all districts in several regions. Although PIs had been used by the DHSS in preparing for a number of the regional reviews, there were few references to them in action plans. As the corporate strategy indicated to the NHSMB, if not publicly, there was serious concern at the centre about the inability of regions to deliver strategic plans (and see Mills, 1987). Thus the prevalence of items in reviews at both levels which related to our Topic 2 - control of costs, manpower, workload - was to be expected. Many of these items are part of the management accounting framework described in Section 5.4 and are now being monitored regularly between reviews. This will compensate for the time lags which will always be a characteristic of the PIs, and the likely impact of such changes in control processes is explored in the later sections of this chapter.

Interestingly, although action to improve quality of care (Topic 3) only seems to have 'taken off' in the last two or three years in most cases, it was a popular review subject five years ago and in four regions it was raised with all districts. Some of the items may have been placed on agendas by reviewees who had been developing local initiatives and were keen to make these known. The context tended to be a complimentary rather than critical one; ministers were encouraging regions to publicise the positive aspects of their services, and

regions were often checking on the progress at district level of regional customer relations programmes. There were very few expressions of concern about the quality of clinical or nursing services.

Of the four topics analysed in Chapters 4-7, Topics 1, 2 and 3 were raised most frequently in regional reviews, and were among those of consistent concern to regions when reviewing districts too. Topic 4 however ranked relatively low in both sets of reviews; consideration of outcomes of care was actually less common than the bar chart suggests, as although seven regions raised matters such as infant mortality and readmission rates they only did so with a handful of districts altogether. The very limited attention to outcomes of care emphasises the potential value in understanding this topic more fully, as there is clearly a need for regions and districts to find ways of assessing this dimension of their performance if the health service is to maximise its effectiveness. The action plans did reveal a number of experimental local schemes, and some of the problems of developing nationwide outcome measures. These points have informed the analysis of Topic 4 in Chapter 7.

The apparent difference in significance accorded to waiting lists and times in regional and district reviews could suggest that ministers raised them with the three regions with the greatest problems, as each of them have received relatively high allocations from the waiting list fund established in 1987/8. The more 'blanket' regional concern to raise this with districts was not surprising as they may well have been asked to discuss lists with them prior to the establishment of the waiting list initiative. Of the references to subjects classified under Topic 8, planning for health, at each level most were related to national policies such as vaccination and immunisation, or in a few instances the WHO 'Health for All' campaign, rather than local strategies for health promotion. This suggests DHSS interest in top-down control.

It was particularly difficult to separate issues of health care effectiveness in meeting the health needs of different groups and individuals, from the politics of health. Indeed, when the consideration of value for money and resource control are brought into the picture, as well as Topic 6 most of the performance-related topics identified here can be seen to have links with the politics of health as decisions are made about the allocation of scarce resources between competing claims. Although not receiving equal amounts of attention in reviews, this analysis of the 1985/6 annual review action plans has indicated that the seven topics apart from Topic 6 are either: sufficiently problematic to merit the attentions of a systems approach; or are apparently neglected despite the concerns of the wider public - in which case again a systems approach may provide the means for them to be put fruitfully on the performance agenda. The 'politics of health' may be a limiting factor to the progress which can be made in implementing any changes to the performance evaluation process which this systems modelling suggests.

While the issues raised in reviews reflected problems of understanding the effects of changes in different parts of the system or its environment, and co-ordinating resources and activity, the nature of the action plan items in many cases might encourage a narrower concentration of effort on controlling one particular service or aspect such as costs. In the analysis of the content of the annual review action plans, items which could be regarded as related to one of our eight topics were the primary interest, together with the general points represented on Figure 5.2. While the proportion of the whole mass of items which these represented, was not calculated, during the process of analysing the action plans it became clear that the topics included the most significant areas of general concern. Some indications of changes in the role of the annual review process as a vehicle for performance improvement are considered next when we look at the results of a second questionnaire.

5.3.2 The 1988 annual review questionnaire

A further questionnaire was addressed to regional general managers in the spring of 1988, which aimed to obtain a picture of some changes to the review system since the 1986 survey. The questionnaire is reproduced at Appendix B. The questionnaire was sent to the 10 of the 11 regions who had replied to the earlier one, and who had agreed to be contacted again. Nine replies were received, the tenth region having had a very disrupted review cycle in 1987/8. Those completing the questionnaires were one regional general manager, five planning managers and three operations / administrative managers. One respondent only completed the questions on the operation of regional reviews.

Opinions.

The questionnaire ended with six anonymous quotations from two (of the relatively few available) references about the review process, with which respondents' agreement or disagreement was sought. The levels of agreement which respondents expressed with the six quotations about the development of the review process - from strong agreement to strong disagreement on a five-point scale - can be linked to their comments on their recent experience of that process.

There was strong support for the first statement, that:

> a) [The annual review procedures] ... provide an arena for exchange and dialogue [enabling] higher levels within the system to move away from generalised policy statements towards the development of differential guidelines which are more sensitive to local circumstances. (Hambleton, 1986, p.56).

In terms of the relevance of action plans to regional concerns, four felt this had increased, two perceived little change, and two disagreed - one of whom criticised the DHSS for a 'focus on irrelevant or insignificant issues' and an obsessive concern with one particular service development. Regions were asked if they had experienced any difficulties carrying out the action plan tasks from their 1987/88 review. Only two said 'yes', one of whom gave details - there were too many (16) major items, to be reported on in depth in a short time with 'few senior officers involved capable of coordinating action on these specialist items'; the review function would probably be high priority among the organisational changes when a new RGM took up his appointment. Nonetheless, most agreed that:

> b) ... annual review meetings are now providing useful opportunities for RHA-DHSS as well as RHA-DHA policy discussions. (Hambleton, 1986, p.152).

The respondents were a bit less convinced about Mills' slightly equivocal view of accountability upwards:

> c) Annual review meetings between ministers and regional chairmen ... have provided a valuable framework and discipline for ensuring proper accountability, ... [although] ... their scope has necessarily been limited. (Mills, 1987).

While four agreed with this and one agreed strongly, another disagreed, and two neither agreed nor disagreed.

The views on the new review format of linked management and ministerial review meetings were mentioned in Section 5.2.2, which were to the effect that the intended differences in purpose and content were sometimes hard to discern. However, most reponses to quotation d) suggested that ministerial reviews did have a strategic rather than short term focus. The quote was:

> d) ... ministerial reviews might discuss regions' long-term goals for reshaping their services ... They rarely look at the changes authorities are planning each year to achieve these goals or how problems in delivering short term programmes affect the feasibility of long term objectives. (Mills, 1987).

One felt that the ministerial review did not have a strategic focus, and disagreed with the quote; another who felt the same about the ministerial review nonetheless agreed with the quote.

Regions were asked if the format or conduct of district reviews had changed (or was changing in 1988). Seven agreed, and few felt this was related to changes in the regional review process. The sorts of changes mentioned included common ownership of the process, constructive, sharing issues all year round, more collaborative style, more of a two way process; more specific, less discursive, action oriented meetings. There had been some changes in process too, clarifying agendas and functional issues outside the review meetings, using a common database to reduce arguments about statistics. These observations must be kept in context - they are regional views about a process over which they still exercise control. An RGM who also plays a fairly active role in higher level activities commented significantly that 'the changes are a result of a learning process. The accountability system has undoubtedly generated greater acceptance by districts of the region's formal monitoring role'.

This regional interest is borne out by the strong or very strong agreement (four of each) with quote e):

> e) [on regions' reviews of districts] The process of managerial accountability is being tightened up in a very real way. In some regions this has led to a critical reappraisal of the traditional relationship between regions and districts and to regions adopting a higher profile approach. (Mills, 1987).

There was a high level of agreement (apart from one strong disagreement) with the quotation that

> f) ... the performance review process has concentrated too much on the financial and staffing inputs and paid too little attention to service outputs or quality of service issues. (Mills, 1987).

Although we noted that the 1986 annual review survey revealed interest in quality issues in a large number of regions, clearly this is not perceived to be adequate. Ironically, the quotation came from the NHSMB's director of financial management, from an article in which he also stressed the need for tighter in-year financial control.

It would be fair to conclude that while these respondents, who were all closely involved in the review process, had their individual preferences and dislikes, they were relatively strongly in agreement about the quotations which suggested that the review process had become more effective and constructive with time. However, the future direction suggested by two final views from the regions (given in their questionnaire responses) illustrates the perceived potential for the annual review process to become either more, or less corporate, while not diminishing its learning value at the more local levels:

> 'The accountability review process has had fundamental changes firstly in effecting the relationship between DHSS and management board/ RHAs/ DHAs with a stronger management line developing and it has brought valuable discipline into our process of monitoring performance.'

> 'The <u>formal</u> system is of decreasing value as less formal RGM to DGM accountability reviews are developed. There is no sign that the NHSMB to RMB reviews are on a corporate basis as far as the NHSMB is concerned or on a managerial rather than a political pressure basis.'

Procedures.

The questionnaire also sought some information about other performance monitoring procedures or data collection tools which may have been introduced over the past few years - indeed, which there had been central pressure to develop. The outcome of these procedures would have been expected to inform the review meetings, while being operated primarily for the benefit of regions' continuous monitoring and control of their own or districts' performance. Some examples cited will be discussed in Section 5.4.

All of the regions said they monitored districts' cost improvement programmes in-year, for internal use and, in four cases, for report to the DHSS (and while this questionnaire was in circulation the DHSS made this a requirement).

All regions required in-year reports from districts on progress in implementing district short term programmes. Seven regions produced periodic reports during the year on progress in implementing the regional STP either to the RHA or regional management board (RMB). One specified that this was on an exception report basis, and it is likely that this applied in other cases too. Only one replied that such reports were submitted to the DHSS. Although this could account for the views of those working on the corporate strategy in 1986, that the department had been surprised at the problems which regions were experiencing in achieving their objectives, in fact interviews with DHSS staff suggested that the department's concern now was primarily to satisfy itself that regions had established effective monitoring procedures. They did not generally require reports to be submitted upwards provided that the issue was not too politically sensitive or complex. However, regional liaison officers would keep a more or less close eye on regions which had special problems. These points will be discussed below.

All regions reported routine use of performance indicators, both to provide RHA members with information and as inputs to the annual review process (as they are only produced annually). In some cases PIs were used to monitor district performance in specific areas, as targets and triggers for exception reports. These and various in-year monitoring devices are being integrated in some regions to form a corporate monitoring system which may be based at district level and feed up to region (including experimental computer networks in North West and North East Thames), or region-based and for regional access only, either manual or computerised as in Trent. Such systems were in very early stages of development when these questionnaires were administered.

An examination of the ministerial review action letters and plans from the 1987/8 reviews, obtained through the 1988 questionnaire, bears out the impressions of some respondents that their focus is not solely strategic. Clearly these meetings had deliberately followed up some discussions in the management meetings, usually on issues with strategic implications

(e.g. waiting lists and times). Each of the eight 1987/8 APs had several items relating to the implementation of strategic plans - especially priority service developments, and nurse and other manpower planning and training. Most references to quality assurance were in the context of the introduction of QA strategies at regional and district level.

As well as raising some points which were primarily operational (and perhaps included to reiterate their importance) - cost improvement programme and STP in-year monitoring, for example - some ministers did seem to focus on areas of personal interest. Edwina Currie was particularly thorough and searching on health promotion and disease prevention, raising issues beyond the central initiatives. Many of the references to this topic concentrated on practical achievements rather than the more general interest in policies of the 1986 APs.

Of our other performance-related topics, there were only three items which directly related to outcomes of care - Edwina Currie asked a region about condition-specific indicators, and to include outcome measures in its QA strategy, and Tony Newton mentioned the high levels of avoidable mortality in another. The increase in interest at the centre in the use of outcome assessment is apparently a very recent development and cannot easily be disentangled from the NHS Review and White Paper 'Working for Patients' (HMSO, 1989). The flexibility of plans, and coping with uncertainty, were not mentioned explictly even in those tasks related to preparations for the next strategic planning round, although the robustness of plans was implicit in concerns about manpower supply. And the 'politics of health' was even less of an issue in 1987/8 than in 1986 - apparently few discussions of then-current news issues such as resource allocation, power struggles of the London teaching hospitals, and service reductions for example.

5.3.3 Some interim conclusions on the annual review process

Table 4.1 indicates the form of the annual review process in 1987/8; if the rapid rate of change of the previous years is representative it will continue to change. The views of the respondents to the 1988 questionnaire suggested that some of the early animosities felt by those whose performance was being reviewed have now disappeared, at least at regional level. The role of reviews seems to be regarded as necessary and relevant to the post-Griffiths NHS. In turn, many regions claim that their relationship with districts has developed into one more conducive to learning than bickering, although districts might not all agree. We have little information about the district perspective, and still less about the units' views. On the other hand, as the review system provides links in the chain of accountability from unit to the DoH and Secretary of State, it might not be too naïve to assume that if regions, ministers and the NHSMB take a constructive rather than judgemental approach, regions have nothing to lose by being firm but fair with districts, and so on down.

But is it possible to say, from the information available, that the review process has progressively contributed to the improvement of NHS performance? At this stage it is perhaps safer to conclude that the process is unlikely to have caused its deterioration. It is a pity that the proceedings and outcomes of regional review management meetings (for example, follow-up letters or RHA papers) are not readily available, as we could then see the use to which reports on operational issues, routine monitoring and the like, are put. The separation into management and ministerial meetings has gone some way to ensuring that those at the centre raising issues of local detail - the NHSMB - have the experience, information and support to enable constructive discussion rather than argument about 'the facts'. In the next section we will look a bit more closely at some important sources of information for these review meetings, which also play a major part in the in-year monitoring of performance towards short and long-term objectives, of value at each NHS level. This may help us assess the capacity of the service to attain those objectives - a matter of some doubt to those developing the NHS corporate strategy.

5.4 PERFORMANCE INDICATORS AND CONTROL DATA

At points in earlier chapters as well as in this one, reference has been made to various tools for performance monitoring and evaluation - performance indicators, in-year monitoring, out-turn reports, the Körner information system and so on. Some have already been described, so here we will look at how several of the major sources of information about performance mentioned on Table 4.1 are used in the planning and review processes. We will consider the use which is made of DHSS performance indicators (PIs), the management accounting framework (MAF) and in-year monitoring of income and expenditure, and (briefly) the central waiting list initiative.

5.4.1 DHSS performance indicators (PIs)

We noted in Section 5.2.1 that the 1982 annual reviews in some regions had included the use of performance indicators which were under development in the Northern RHA. They attracted a certain amount of criticism (for the poor quality of data, inaccessible format in a large book, for example) and, while being used in all regions in 1983, a joint group from the NHS and DHSS (the JGPI) was set up to develop a larger, more comprehensive and user-friendly set of indicators.

The impetus for the development of PIs came partly from the demand in 1981 from the Public Accounts Committee for greater accountability in the NHS. Another important spur was the work of John Yates (introduced in Chapter 1), who set up the Inter Authorities Comparisons and Consultancy (IACC) at Birmingham University to make indicators based on routinely collected data available to health authorities and hospitals on request. The IACC PIs covered a wide range of clinical specialties and individual long-stay mental illness and mental handicap hospitals and were accompanied by commentaries, attractively presented and making effective use of computer graphics.

The DHSS PIs have become more user-friendly, with the package issued in 1985 (based on 1983/4 data) developed for the BBC model B microcomputer (which was also used for the IACC indicators). The indicators from 1985 on have been structured in a tree form which enables users to explore the data in as much detail as they require (although raw data is not accessible). The software is accompanied by a clear handbook which is readily updated (DHSS, 1985a, b). The PIs are based largely on routinely collected data - hospital activity analysis (HAA), hospital activity returns (SH3), non-medical manpower census for example - augmented by some data specially collected. However, as the JGPI made clear (JGPI 1985),

the 1985 set of indicators still needed development in key areas - data quality, indicators for service adequacy, access, quality and treatment outcomes - and this development and research could usefully be undertaken in conjunction with the development of a new set of indicators to be based on the Körner system of health service information.

Other problems with the early PIs were summed up by North West Thames RHA in a booklet to districts aimed at encouraging their use especially by clinicians. They felt that PIs were here to stay and would be used seriously by the Department, and identified the following major shortcomings:

- the absence of any theoretical framework, leaving the purpose, potential and problems associated with PIs unclear;

- the PIs did not reflect differences between teaching or non-teaching and urban and rural districts, or the number, type and size of hospital facilities and services;

- nor did they reflect the significant variations in the characteristics of the populations served and the complexity and severity of cases treated;

The region concluded 'The approach taken by the DHSS is currently narrow yet potentially unlimited. Narrow in that only the extremes of performance will be highlighted, leaving the vast bulk of the service ignored. This can mean that attention is focused onto selective aspects of hospital resources and activities, excluding the appropriateness and quality of health care, the performance of surrounding primary health care services and, crucially, the impact of the NHS on the population's health.' (North West Thames RHA, 1984).

Many of these criticisms were accepted by the JGPI, and steps taken to address them in the 1985 package. A major shortcoming which has continued even with Körner is the lack of data and indicators on community services, which is a handicap to the use both of acute PIs and especially those for services for the mentally handicapped, ill and elderly for whom care in the community requires monitoring at least as much as care in hospital. Attempts to facilitate assessment of qualitative aspects of care not readily captured by activity, financial and manpower returns were made by including a number of checklists for good practice in the 1985 PI package. While being less open to scrutiny by higher levels (or CHCs and other representatives of patients), such checklists at least avoid the appearance of slavish attention to numbers and inappropriate use of statistics collected for other purposes.

Thus with the issue of the 1985 DHSS PI package to districts and regions, a mass of comparative information was at the fingertips of anyone who was interested (once they had obtained the relevant hardware - a printed set of the tables relevant to the authority concerned was supplied for those without it). Planners and information officers, and to a

lesser extent managers, clinicians and health authority members, could compare their district's or region's position on over 400 indicators with those of other authorities - in the region, similar sized districts, nationally and so on. New sets of disks are supplied annually, with some new indicators and additions to the manual - although there have been some very long delays between the end of the data-collection period and the issue of PIs. Initially, lack of data meant some indicators were not available for all relevant authorities or specialties, but over the years since 1985 the data have become more accurate, sets more complete, and time series and clustering facilities are now available. Some indicators are standardised for population characteristics.

The fears of some managers, trade unions and pressure groups that the PIs would be used punitively, seem to have been largely unfounded - indeed the DHSS stresses that the indicators must be interpreted in context, and their accuracy reflects the attitudes and skills at local level in dealing with information which is often essential for their own benefit regardless of the DHSS. However, the expression of such fears is significant if people inside and outside the health service actually want to see more effective planning and monitoring - they are equivalent to blaming the messenger for the content and accuracy of the message, when what one may seek to challenge is the interpretation of the message. Performance indicators need to be seen as just that - indicators, not proof of failings or targets to be aimed at. They are simply the starting point for enquiries, an accessible way of identifying some potentially interesting aspects of local services. How have PIs been used since 1985?

The 1986 annual review survey described above, revealed that indicators were raised by most regions with their districts. This varied between a standard agenda item requiring districts to describe their local use of PIs, to regional analysis of 'outlier' PI values (in the top or bottom 10% or 20%) or all PIs for some or all districts, as a pointer to potential performance problems. In the preparations for its 1986 annual reviews Trent RHA, for example, discussed with each district the reasons for, and implications for action of, groups of related indicators where the district's values in comparison with the rest of the country were outliers (personal communication). The region accepted that outliers could have a number of causes and implications, and an assessment following most of its 1986 reviews revealed the following breakdown of causes:

- outliers explained by errors in data and/or definitions used (10% of cases);
- outliers which were accurate but no longer applicable or problematic, because of subsequent service changes (20% of cases);
- outliers which were accurate and still applicable, and where appropriate remedial action was in progress (30% of cases);
- outliers which were accurate and still applicable, but which the district had little power to remedy e.g. because of externally-imposed manpower constraints. In these 20% of cases, criticism of the district would be inappropriate;
- outliers which were accurate and still applicable, and which the authority had not investigated or sought to resolve (20% of cases).

In the case of the final category, the instances were concentrated in a small number of districts and suggested, as other studies of PI utilisation have, that the approach taken by districts to the use of management information is as varied as the performance revealed by that information. Trent and other regions have approached the issues this raises in a variety of ways: seeking to improve the technical accuracy and scope of the indicators, to develop analytical skills and techniques at region, district and unit levels, and examining their potential as indicators of the effectiveness of specific service changes over time.

This latter aim raises an important point about focussing on outlier PI values. As many commentators have remarked, PIs may tell users how they compared with other service providers over a period of time, but they do not in themselves indicate the objective 'desirability' of particular values. Relatively high costs per inpatient case in a specialty in a district may be a consequence of having an unusually complex mix of cases; it may be regarded as desirable and inevitable to clinicians, and undesirable to accountants. The district may even be expecting to experience an even more extreme PI value, if it is also trying to treat patients in the community as far as possible and only admit them to hospital if care at home is impossible - in which case, PIs which remain in the middle 80% of values may suggest that this policy objective is not being achieved. More detailed critiques of the PI approach have been given by Brotherton (1984) and Birch and Maynard (1986).

The DHSS performance indicators have continued to evolve; as well as a version to run with a spreadsheet on IBM PCs, an expert system was introduced with the new performance reviews in 1986 (Payling et al, 1987). This was initially developed to assist the NHSMB in its review preparations, where a relatively comprehensive analysis of performance for each region was desired which identified extremes of performance and actual or possible explanations. Drawing on the knowledge and judgement of those who developed the PI

package and other expert users, DHSS operational research analysts and external management consultants built a set of logical rules to be integrated in an expert system 'shell'. This computer programme can draw on the mass of data in the PI database, identifying outliers and searching for particularly significant combinations, then producing a descriptive textual report.

While not embodying much more 'expertise' than that which a skilled health service information officer, manager or community physician would bring to their analysis of local PIs, the expert system is a potentially useful tool for those concerned with a large number of health authorities and many aspects of their performance - primarily the DHSS and regions. The database it draws on has incorporated data from the IACC PIs, but (at least initially) it did not include unit-level data. Nor does it include any new information about local conditions which could enhance the range of interpretations it suggests; locally-collected data may generally be more relevant and timely for monitoring attainment of regional or district targets. It can be used interactively; although when demonstrated to me it appeared to be of limited help to users new to the PI system while providing little extra to those already experienced with using PIs. However, the model is readily enhanced with new rules and data, and like any use of PIs can provide a starting point for more detailed analysis and informed interpretation.

Since 1987 the DHSS has issued a rudimentary set of performance indicators for family practitioner committees. In the light of the gradual development of the review process, and more rapid recent changes in the management roles of FPCs, it is likely that the set will grow from its current basis of data relating to the FPC role of administering doctors' patient lists and remunerating doctors. However, although the sets of indicators issued in 1987 and 1988 included some related HCHS indicators for comparative or information purposes, until 1988 at least the work on the two sets of indicators had been as separate as the administration of their services.

The 1988 annual review questionnaire (described above) revealed a wide range of uses of PIs by regions, which reflected their expectations of district use too. During 1988 performance indicators were given a higher profile by the DHSS. As well as issuing the latest set of indicators to regions and districts, the department published a booklet (DHSS 1988f) explaining some key PIs for a wider audience, illustrating the ranges and trends over four years of some PI values nationally. Districts were asked to 'carry out an analysis of the sets of indicators from 1983/4 to 1986/7, and present a commentary on the results to authority members ... (which) should highlight progress over time, and identify those main areas requiring further investigation. Copies of the booklet with a commentary should also be made available to members of CHCs and local MPs' (DHSS 1988c, e). Regions were asked to ensure their districts did this, to provide an analysis of the indicators for their regional reviews 'and to indicate whether they are satisfied with the variations across the region and with progress in addressing "poor" indicator values over the time period for

which indicators have been available.' They were also to provide a commentary based on this analysis to RHA members.

Comparisons of performance over time has been interrupted by the change to PIs based on the Korner minimum data set, which came into effect in 1987 (and for community services in 1988). In preparation, lengthy deliberation and consultation about the content of the new PI package took place, culminating in a report to the DHSS in December 1988 (Health service indicators group, 1988) and the issue of the first (far from complete) set of new indicators in July 1989 (DHSS 1989a). The new indicator set incorporates the IACC PIs, and includes some indicators of outcomes (including 'avoidable mortality', discussed in Chapter 7; DHSS 1988a), and developments are continuing towards the production of district profiles based on the new data. It is too early to know whether the new set will arouse similar criticisms from users as the old system. So far, as with the early years of the former DHSS PIs problems have included poor quality data, varying between authorities; and the time lag in producing data and indicators for community services has not helped the monitoring of community care policy implementation.

The preparations for the new indicator set included a large-scale survey of the use of PIs in district health authorities (Jenkins et al 1987, Jenkins 1988). Their findings suggest that technical barriers to their widespread use have been overtaken by behavioural ones. Most district general managers, planners, information officers and many DHA chairs could be counted as 'users' (actively seeking information from the DHSS or IACC PI packages on occasions other than the event of their publication). But half or fewer unit general managers and senior managers, consultants or CHC secretaries could be counted as active users (even including those who sought information from PIs via other users). Only about a third of users said that PIs influenced their decision making, tending to use them reactively and not learning more than they had already expected. Many managers claimed that the indicators were not relevant to their management style, and tended not to use quantitative data in general. Although many users felt that the accuracy and quality of PI data was getting better, inaccuracies in data was still the most common criticism, and the tradition of arguing over detail rather than substance persisted in many districts who felt that their region used indicators in a negative way. Other 'worst features' were that indicators were out of date, liable to misuse by others, slow to use and access, difficult to understand or to compare like with like, lacking in measures of quality, and too highly aggregated where hospital level was needed (this applies more to the DHSS than IACC indicators). The most frequently reported uses were in service changes - expansions and developments as well as reductions and rationalisations - and in reviews at unit, hospital or specialty level.

A strong case for greater training, or wider use of the expert system, is suggested by the finding that few users were able to consider the inter-relationships between several PIs, although it is rarely possible to use single indicators in a meaningful way (Best, 1983). On the other hand, the more expert users would benefit if the new indicator system enabled

them to incorporate their own data and construct their own indicators. Jenkins and her colleagues concluded that the presence of an enthusiast, of high status, was an important factor in encouraging the active use of the available data by a range of people in their real life work - decision making and action. As Yates had found in his early work on long-stay hospitals, relevant statistics were often available but were not used, and in our analysis of Topic 2 later in this chapter we will explore some of the conditions which may encourage the proactive and constructive use of PI data at local level.

5.4.2 The management accounting framework (MAF) and in-year monitoring of income and expenditure

Table 4.1 refers at several points to the management accounting framework, which forms a link between different NHS levels. Introduced in 1985, the MAF also links short term plans and the annual review process, and work which was until recently underway at the DoH aimed to develop a 'planning data set' which would further integrate short and long term planning and programme budgets (DHSS, 1988i op cit.). By establishing common data collection and reporting requirements, districts could monitor their own progress with plan implementation, regions could readily aggregate reports from their districts to obtain the regional picture, and the Department could compare regions' performance and obtain an overall picture as required.

The Department had hitherto been relatively slow in developing such monitoring systems, relying largely on year-end out-turn reports and PIs which, depending on the time of year for regional reviews could be a year or more out of date. In spite of the succession of central interventions in aspects of NHS management efficiency, a number of investigations by the National Audit Office between 1984 and 1986 drew from the Department its apparent unwillingness or inability to effect control over the services for which it is accountable. (See, for example, *Public Money*, 'Can central government manage the National Health Service?' anon., June 1987, pp.37-46). Questioned by the Public Accounts Committee, on several occasions members of the NHS management board and civil servants claimed that once general management was fully established, or more sophisticated information systems were developed, then some areas of control or needs for firmer guidance to the service could be met. Limits would still apply where professional practice, social mores or the wider environment were significant factors, as in the cases of medical and nursing manpower planning, or take-up of preventive medicine procedures.

NHSMB member Ian Mills (1987) emphasised the need for greater understanding at central, regional and district levels of the mechanisms for monitoring and the components of control operations, a need which the MAF could help to meet. And in the past two or three years the determination of the centre at least to ensure that local monitoring and control were more effective, seems to have been strengthened. More frequent and less aggregated

monitoring has been aided by the introduction of the Korner health service information system, upon which the MAF is now (and PIs will be) based; the effective use of information technology has been encouraged through the development of national and local strategies for information management. (The impact of the 1989 White Paper 'Working for Patients' on these developments is not yet clear.)

The views expressed by DHSS civil servants interviewed for this research indicate some organisational tensions invoked by the exercise of more direct central control implied by the proposed introduction of formal in-year monitoring. The suggestion that this contradicted the aims of relatively autonomous but accountable general management, was denied. The centre's desire for continued involvement was seen as natural to the exercise of political and managerial roles, although the NHS management board was hoping to leave monitoring to the regions in due course - probably. The time for regions and the Department's Regional Liaison (RL) division which direct monitoring would take up, has led to a pattern where the centre requires to be satisfied that regions have systems in place for monitoring districts. They do not need to pass on the results of that monitoring, or may only do so on an exception basis. Where ministers have set fixed targets (such as the dates for implementation of cervical cytology screening), RL may require detailed accounts of progress and (in return for 'protecting' regions from undue demands from ministers) do not accept excuses about circumstances beyond beyond regions' control.

However, it is not clear what the penalties for failure are - apart from penalising managers through the recently-extended individual performance review process. This is essentially a management-by-objectives approach, linking the managerial achievements in agreed tasks with a grading scheme, performance related pay and the renewal or otherwise of fixed term contracts. Unfortunately space precludes a fuller discussion of the IPR system, but it is clearly a relevant factor in the general trend towards closer monitoring of performance. The draconian sanctions used in the past against health authorities who refuse to implement policy - the imposition of direct central control and suspension of the health authority - are less appropriate if the failure can be directly linked to managerial incompetence.

Thus the introduction of direct quarterly monitoring of income and expenditure by the DHSS in 1988 (DHSS, 1988d) ran counter to an apparent reluctance in parts of the Department to take on more direct central involvement. However, it was stressed to me in interviews that only information which the Department was actually going to use would be sought - a professed trend for future data requirements. The overall NHS budget is cash limited, and within it there are strict limits on carrying spending forward and virement between revenue and capital. Nonetheless in 1987/8 the HCHS revenue spending exceeded the adjusted plan by £390 million, in 1988/9 receipts from land sales were £57 million less than anticipated (Social Services Committee 1989), and the National Audit Office had expressed concern at the NHS overspendings in 1987 and 1988. The introduction of in-year monitoring by the NHSMB directorate of financial management was therefore not

altogether surprising particularly in the light of the ongoing NHS review. 'The objective', RGMs were told, 'is to inform the management board of how the income and expenditure position is developing in-year, the reasons for change and any related management action. This formal monitoring arrangement does not replace the need for RGMs to keep the Department up-to-date on service and planning issues as the year progresses.' Regions are required to submit completed forms by the 15th working day of July, October, January and April showing cumulative variances from revenue planned income and expenditure. The information required is based where possible on the integrated planning statement for the short term planning process, and therefore draws on the MAF. A supporting report with the forms is required, to include details of variances from the planned capital and joint finance position, any significant uncertainties or problems in particular districts and their implications for activity levels.

Districts in turn have been required by regions to report their quarterly position (as the 1988 annual review survey found, many regions had already introduced some quarterly monitoring reports), and in some regions units report their position to districts each month. The quarterly reports are of varying value as predictors of potential overspending; the first one is of little use as the outturn report from the previous year may not be fully reconciled. The second quarter especially, and the third, are more valuable to each level, while the fourth is relatively late in terms of the next spending round and planning cycle. The use which the Department makes of this information is not known at the time of writing, although it is presumably an important contribution to the annual review management meetings. At the point at which the system was being introduced a DHSS civil servant confided that while the regional returns would be analysed by the regional liaison, planning and finance divisions and a report submitted to ministers, their subsequent use had not been decided.

5.4.3 The waiting list initiative

The waiting list initiative (WLI) introduced in 1987 (through which earmarked funds are allocated to regions for schemes to reduce waiting lists and times, based on bids from districts) is unusual in that it directly links achievement of targets with the provision of resources to the organisation. The fund has grown from £25 million in 1987/8 used to treat 99,000 extra in-patients and 44,000 out-patients, to £30 million planned to treat 110,000 and 80,000 in- and out-patients respectively in 1988/9. 1989/90 allocations are £25 million for general bids, and £6 million for the 22 worst districts mentioned below. As the scheme has developed, monitoring and reporting has become tighter from the centre and where schemes are failing to deliver their intended improvements the funds are liable to be switched to other schemes which had not initially attracted money. This partly defuses the discontent expressed in some quarters that the WLI has rewarded poor performers, while districts which have made successful efforts to keep waiting lists shorter have to bear the expense themselves. The DoH view is that this is a fair comment, but it is more unfair on patients to suffer from this particular aspect of poor performance.

The most recent development is a special task force, plus a small allocation from the fund, to help those districts with the worst waiting time problems explore them fully. The efforts directed at these problems in part reflect their complexity (spending money to reduce lists tends to lead to even faster growth of lists); despite the positive feedback effects, the initiative has cleared some major bottlenecks and forced clinicians and managers to pool their skills and influences in the common interest of obtaining extra funds as well as improving services. The initiative's growth also reflects the importance of waiting lists and times in the public's perception of the NHS and, to some extent, the crusading influence of John Yates (Yates, 1987). It is an interesting example of the way in which a multi-organisational health service problem area has slowly come to be addressed in a relatively systemic way.

Full details of the initiative are given in the 1989 memorandum from the DoH to the Social Services Committee (Social Services Committee 1989).

5.5 ASSESSING THE STRENGTHS OF NHS REVIEW AND EVALUATION PROCESSES

The picture painted by this chapter so far, and by parts of Chapter 4, has been one of gradually increasing integration and sophistication in planning and review processes. This has been largely driven by the DHSS/DoH, and the response of health service managers is likely to have been influenced by attitudes to rational planning and control outside the NHS and by changing culture within the health service. Furthermore, as many managers at each NHS level now receive performance-related pay, they have an additional interest in increasing their influence over the attainment of objectives. To a certain extent these objectives have been clarified by the distinction between policy aims and (national and local) service objectives, which allow some managerial discretion over the routes to implementation. This distinction is an important one as it separates at least partially the political and practical/ rational domains. This makes negotiation, modelling and evaluation potentially more fruitful for all interested parties, although the centre is unlikely to relinquish its right to intervene in the management domain so long as present accountabilities persist.

We have encountered a number of views of those actively concerned with the annual review process, and seen some changes in the tone of such views over time as both management style and the review system 'matured'. A senior civil servant interviewed for this research said he 'didn't know how we managed without the review system before 1982'. From a rational point of view we may assume that linking the annual review and planning systems is desirable. However, this depends on one's viewpoint and interests. Carlisle (1983), an RHA chairperson, suggested that this may diminish in importance if unit management and the review process become more effective, and greater devolution occurs. We also noted the view of a regional manager that the formal review process could lose its importance for region:district monitoring in the face of more effective informal and ongoing monitoring of districts' performance. He felt, however, that regional reviews had retained their essentially political role. There are strong vested interests in the perpetuation of the review system in something like its present form, as regions can use the review and planning processes to justify their existence, undertaking roles that the DoH could not cope with for all DHAs. McNamara, from the DHA perspective (1983), saw the integration of planning and review as necessary, but that it brought dangers of greater central control. There is no objective answer to this; even if we can assess its impact quantitatively, the desirability of a system will vary depending on the interests and values of the person observing it.

Planning and review have certainly come considerably closer since Ham (1985) noted their separate development, as Table 4.1 illustrates. The annual review system and the various tools which were discussed in Section 5.4 could be used in new ways if devolution and

greater local autonomy for districts and units were to develop. The NHS corporate strategy exercise drew together a number of changes in thinking and action at the centre, and proposed developments in the organisational culture as well as management practices. These proposals appear to have had influences at each level, which included an element of 'normalisation of relations' because of rather than in spite of the annual review process. Unfortunately we only have partial information, largely about the ministerial reviews of regions and the views of regions about the performance of districts. Clearly annual review meetings alone cannot identify and correct problems which threaten the attainment of long or shorter term objectives. However, we do also know something of the potential offered by tools such as the MAF for more continuous monitoring and control of and by the lower levels.

Several early commentators on the review process were of the opinion that it had the potential to direct attention towards: decreasing inequalities and meeting local health needs, improving quality of care and customer relations, and monitoring health care outcomes. However, in the rest of this chapter we will explore some examples where in spite of the annual review process, management accounting framework and so on, some structure and process aspects of performance seem to be difficult to control. We will develop a model for coping with some of these difficulties which, although from within the hard systems paradigm, is sympathetic to behavioural concerns and, like the planning model in Chapter 4, can be reflective and participative.

5.6 A SYSTEMS MODEL TO ENHANCE PERFORMANCE THROUGH STRUCTURE AND PROCESS: INITIAL ANALYSIS OF TOPIC 2.

5.6.1 Introduction - the context.

In the rest of Chapter 5, we turn our attention from performance review and control activities operating throughout the NHS at the instigation of the DHSS/ DoH, to focus mainly on an example at the hospital level. However, the model to be developed can be applied from the national policy context to far more parochial concerns.

Topic 2 probably comes closest to the common view of what 'performance evaluation' is about; for example, Anthony's (1965) 'management control' whereby managers obtain and use resources efficiently and effectively, in pursuit of their organisation's objectives. Following the common ten-step process, the analysis contains some basic building blocks for those explored in other chapters, both in terms of concepts and health service evaluation procedures. The model used here is a control loop with a difference; it draws out the relationships between control and organisational learning. The concepts both of 'nested' control loops and double-loop learning have been applied to organisations in a variety of ways for some years (see, for example, Ashby, 1956; Hofstede, 1978, 1981; Cantley, 1981; Argyris and Schon, 1978). In Chapter 2, simple control loops primarily applied to machines and the self-control provided by cybernetic models were introduced. Some writers have made ambitious claims of the power of the latter model not only for complex machinery but also as an arrangement of structures and processes for effective control of human activity systems including whole organisations. We will meet a highly developed version of 'organisational cybernetics' in the next chapter; the model applied in this chapter is less comprehensive and may approximate more closely to Jackson's (1986) 'management cybernetics' (and see Flood and Carson, 1988, p.p. 96-101). However, in this application we will attempt to address some of the limitations which Jackson and Hofstede have noted of this simple cybernetic analogy.

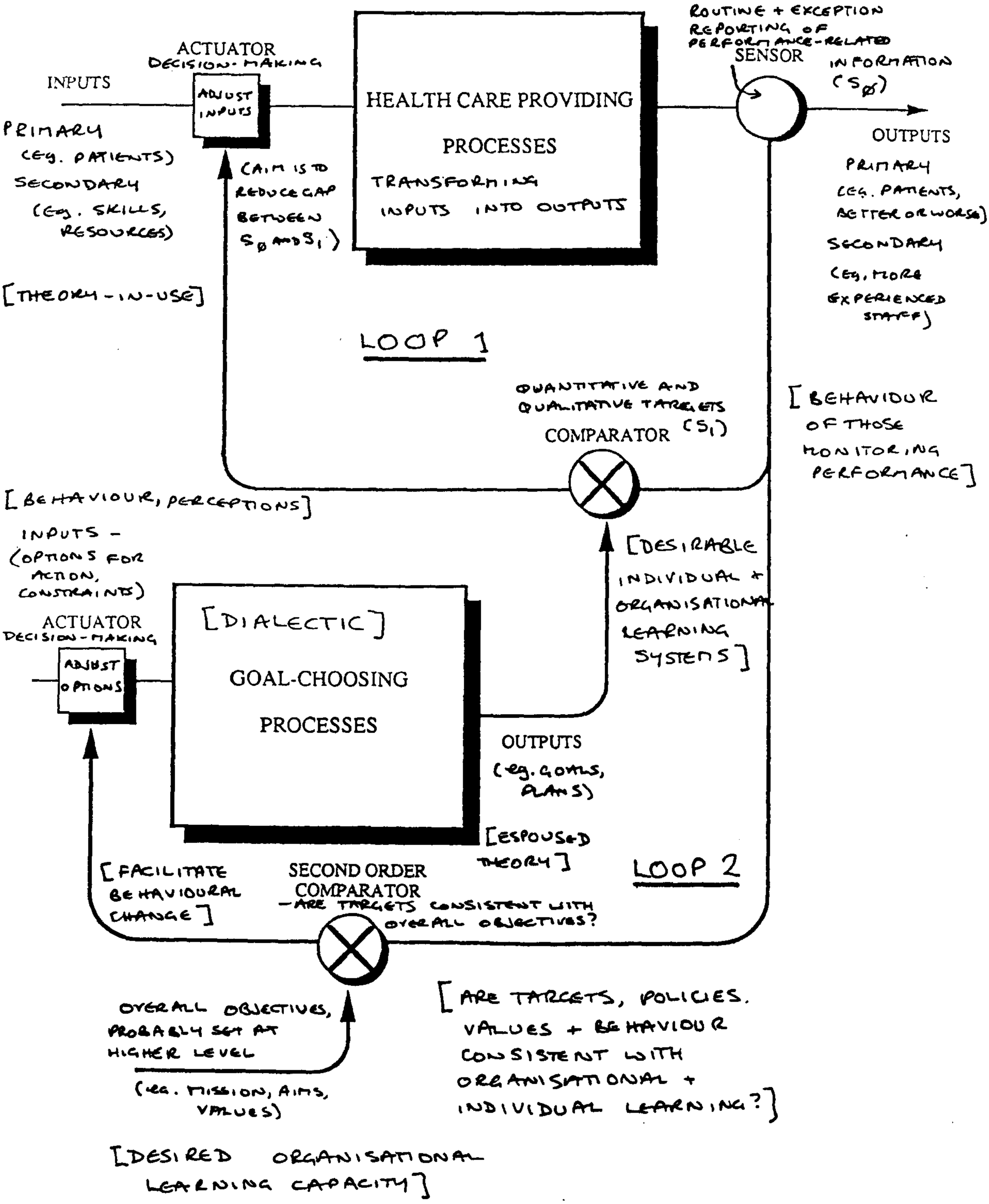
Fayol, Mintzberg and others have included control as an essential aspect of managerial work. In spite of its benefits, the annual review system seems to have had only a limited effect on the controlled implementation of health authority plans and government policy aims. Contributing to this problem area as it was described in Chapter 4 were the relatively low use of the DHSS performance indicators, particularly by general managers and clinicians, and the divergence of acute hospital activity from local planned levels and central policies. These problems in turn reflect, as suggested in the thumbnail sketch of Topic 2 in

Chapter 2 the range of interests and susceptibility to unexpected influences which lead day-to-day management to be dominated by relatively short-term trade offs which can be a diversion from longer-term (and often ambiguous) objectives. Robb (1984) stresses the value of cybernetic principles for 'practising managers who have defined targets to hit and who use the measurement of performance to monitor their achievements' (p. 21). He suggests that appropriate attention to feedback is of special importance if incremental policy implementation is preferred to dramatic and disruptive swings, and that cybernetic control confers such an advantage (ibid. p. 11; and see the example provided by Argyris and Schon, 1978, pp. 1-3). Certainly in the NHS we can discern some major changes in policy over the past six or so years which are not unconnected with the apparent failure of the service to make progress in implementing long-standing policies gradually, such as the 1989 NHS White Paper as a vehicle for internal markets and management budgetting.

Developments such as the introduction of in-year monitoring of income and expenditure, the centrally-funded waiting list initiative, the management accounting framework and proposed 'planning data set' may be expected to preclude the selective attention to performance data which Robb describes. However, taking waiting lists for NHS treatment as an example (which continue to lengthen in spite of the initiative), it seems that these control mechanisms are not operating as intended, over the short term. This does not bode well for longer-term plan and policy implementation. Here we will focus primarily on these short term concerns, recognising the longer-term implications of control problems.

We will examine a simple model which can represent both control and organisational learning in organisational contexts of two or more levels. We will see how this could help NHS managers and policy-makers in the design of uses for performance indicators (seen by Best, 1983 p.64, potentially 'both as a means of prescribing desired performance, and as tools for holding managers accountable for achieving that performance'). We will also consider the use of such a model in designing routine monitoring of structures and especially processes, and even in the approach to policy making. We will imagine that the model, illustrated in Figure 5.4 can be treated as if it represented a continuum from control to learning, to be used in different ways depending on the context.

Figure 5.4 Performance control and double-loop learning - the general model.



5.6.2 The model.

Both the model and its application are highly simplified here. Partly this reflects the mode of analysis - at a distance from most of the problem areas now. It also a desire to keep the model as simple as possible, so that it is adequate for some initial experimental applications, primarily as a framework around which to structure possible more detailed modelling. We have seen that there are a variety of arguments for and against the use of cybernetic analogies in human activity systems. It is felt to be important not to become bogged down too early in such debates provided that the initial experiments to be described here, satisfy the general criteria applied to all of the topic/ model analyses.

Figure 5.4 illustrates this framework; it is partly derived from the nested control loop model of Blunden and Hughes (1987). In Chapter 2 the basic components of feedback and feedforward control loops were introduced, together with some examples of management applications of control theory and cybernetics. We noted there some criticisms of machine and biological analogies applied to control in organisations, but concluded that there were occasions when the sort of control loop depicted here could help us to understand the operation of, and influences on, health service performance evaluation and control. Figure 5.4 attempts to represent two key elements of effective control of complex and purposeful organisational activities such as those of interest in this NHS performance-related topic. First, that the objectives and options available to operational levels can be constrained/ shaped by higher organisational levels. And secondly, that as well as outputs in terms of various aspects of delivered health care ('primary outputs' that 'primary inputs' have been transformed into), there are also 'secondary outputs' which are of interest to the attainment of objectives. These are the forms which 'secondary inputs' - the parts of the system which do the transforming - are changed into in the process of their actions.

For simplicity, the figure suggests that two higher levels operate on the 'health care providing' level; however, this is an artificial distinction. One can imagine that the providing level represents direct patient care - clinical or support departments; the goal-choosing processes represent unit management team activities in a hospital for example; and the district health authority level (itself constrained by region and DoH) sets overall objectives which constrain the lower levels. All of these processes could in fact take place at one level, as departmental or ward managers are involved both in controlling physical inputs and routine patterns of practice, and in taking decisions about configurations of skills, team development and so on over the longer term. Thus the hierarchy which the diagram depicts need not represent large organisational divisions, but can reflect the complex range of roles operating even within the work of an individual. The example of a unit-wide review process which we will consider shortly encompasses these internal strands, within a hierarchical structure which sets the overall parameters for unit policy and action.

The second key element which the diagram attempts to encapsulate is that the ways in which delivery of care is planned, objectives are set and the less tangible aspects of direct patient care behaviour, can themselves usefully be treated as inputs, targets or objectives. On the diagram these are represented by the items in capital letters and square parentheses. Processes of reflection on practice, the way the organisation and its parts deal with conflicts and undesired performance outputs, and other components of organisational culture, behaviour and values - all are relevant to 'success' or 'failure'. They are parts of what Argyris and Schon (1978) refer to as the organisation's 'learning model'. In this chapter we will look for instances where the way in which the health service learns from performance assessment outcomes is as important as the assessment processes themselves. We will examine several assessments of structure and process to see what contribution improvements in organisational learning could make to performance assessment and control. The case for making this link is well made by Argyris and Schon (op cit, pp. 2-3):

> Organizational learning involves the detection and correction of error. When the error detected and corrected permits the organization to carry on its present policies or achieve its present objectives, then that error-detection-and-correction process is *single-loop* learning. ... *Double-loop* learning occurs when error is detected and corrected in ways that involve the modification of an organization's underlying norms, policies and objectives. (emphasis in original.)

In the rest of this chapter we will explore the link further.

5.6.3 Step 1 feedback check - can this model be applied in the 'standard' way?

Recalling the list of points set out in Chapter 2, Section 2.6.2 setting out the basic requirements for our modelling process, we can sum up the purpose of the present analysis as being to suggest improvements in some basic performance control procedures which are relevant to the organisation's capacity for double-loop learning, as well as its responsiveness to (and if necessary, robustness in the face of) demands from higher tiers. We are more interested here in the structures and processes which produce health care outputs and outcomes, than in those products themselves.

This application differs from the way the other topics are analysed. While the hard and soft systems methodologies are divided into stages which can be grouped in terms of their diagnostic, design or implementation roles, and the viable system model can also be applied in this way, the present analytical tool is a model rather than a complete methodology. As such it could be used as a component within a methodology, but here a number of roles for the model are simply demonstrated as the major tool within our ten-step process.

We are certainly interested in using the model in the management of change, in terms both of changes in performance and in the practices of performance evaluation. Although cybernetic control frequently has as its purpose the maintenance of stability, it is also has a key part to play in controlling the pace and direction of change. This model will also encompass some of the factors which establish such pace and direction.

We can confirm from the checklist, therefore, that our control model is intrinsically suitable for the application we have in mind, and proceed to Step 2.

5.7 STEP 2. DESCRIPTION OF TOPIC 2, AND CONFIRMATION OF MODEL CHOICE.

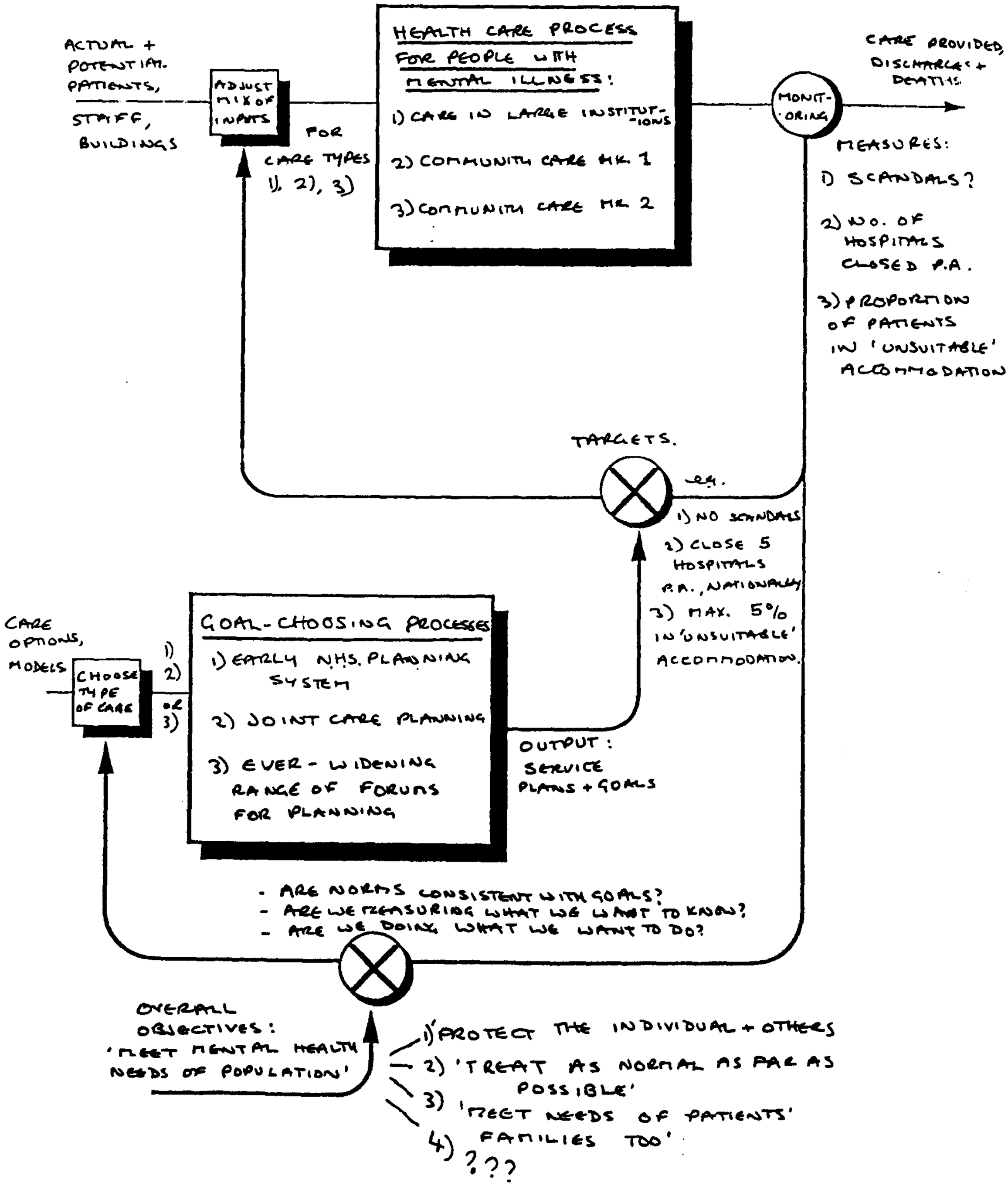
5.7.1 Description of Topic 2.

Here we will take the double-loop learning and control model set out in Figure 5.4 and imagine it as a continuum from a purely 'learning' mode where the significant inputs, outputs, targets and objectives relate to improving the organisation's capacity to learn; through a middle range where as well as everyday control of operational activities, managers are interested in developing organisational learning skills; to a situation where cybernetic adjustment of inputs in response to error signals requires little in the way of reflection on the control process. The three examples which follow illustrate three similar points on this continuum in an NHS context, and this chapter goes on to develop the latter two in order to assess the implications of applying some cybernetic principles to complex performance related activity.

Application at the national policy-making level.

First, Figure 5.5, a simplified version of our basic model, illustrates the changes (1, 2, 3) through which policy for the care of people with mental illness could be seen to have passed since the NHS was established. It suggests that in spite of a common underlying objective of meeting the mental health needs of the population, there have been dramatic changes in the sort of care provided - and there are likely to be further changes. The driving force is not primarily changes in patterns of illness, but changes in society's perception of them and the ways that these perceptions are translated into delivery of care. Sadly, many of the hopes which each new policy has brought as they have been introduced from the centre to the local NHS level, have not been realised.

Figure 5.5 Performance control and double-loop learning: changing objectives of services for people with mental illness.



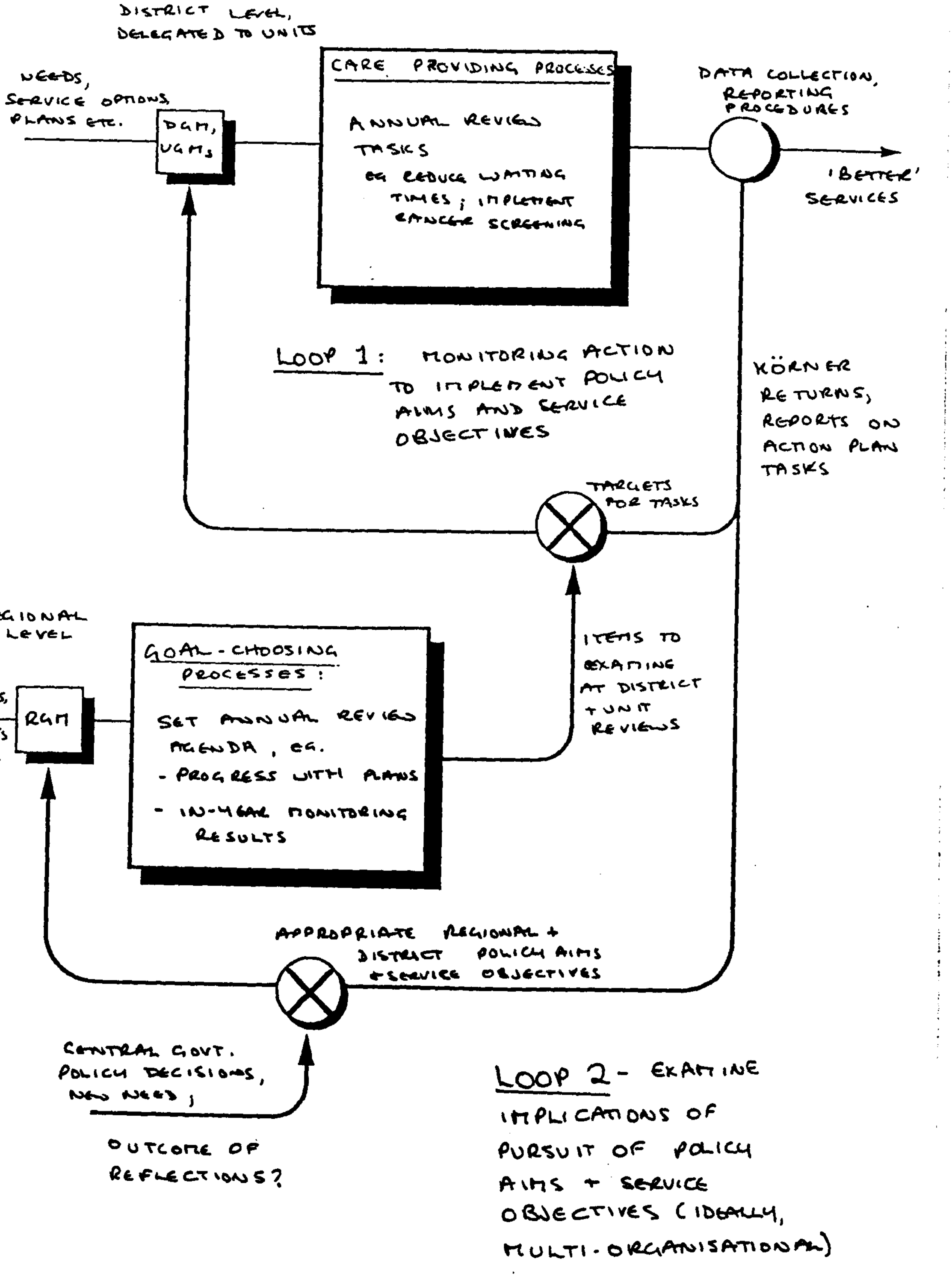
If the model were applied in 'control' mode alone, the process of failing to attain policy objectives would continue. New facilities may open and old ones close (although many of the same patients may remain), but it is quite probable that many people would feel disappointed at their impact. It is suggested here that progress towards meeting peoples' mental health needs would be given a major boost if before the next shift in policy direction, some effort was expended in examining what lessons could be learned from earlier practice. These lessons would not be concerned with the technicalities of policy implementation, but with the extent to which policies assumed the existence of shared values at different levels, what sort of outputs or outcomes should trigger examinations of managerial behaviour, and so on.

In other words, the processes which operate when policies for services for those with mental illness are made and implemented seem to need attention in their own right. Improving control of policies which are no longer perceived by many as appropriate, is not the main priority in this scenario. We will leave this learning end of the continuum for now, and return to it only briefly below; our main focus here is, after all, on control.

Application to an annual review process.

A more proper concern here is the use of the annual review process to initiate adjustments of inputs and processes in order to attain desired outputs and outcomes. The top-down system operating in the NHS since 1982 was described in the earlier sections of this chapter, where we also noted some perceptions of its increasing value as a learning as well as control process. Figure 5.6 uses the double-loop format to suggests how the annual review system can both monitor the implementation of policy aims and service objectives, and assess their implications in the light of experience. Little information was obtained through the questionnaires described in Section 5.3 about the operation of reviews of units by districts, however. This was due at least in part to the relatively undeveloped pattern of unit reviews; while some districts were known to operate formal systems very similar to region: district meetings, others met informally, or collected performance data by other means or, it appears, hardly at all.

Figure 5.6 Double-loop learning and the NHS annual review process.



Also following central initiatives, a number of in-year as well as annual monitoring arrangements have been established in recent years. In spite of them, control over waiting lists and income and expenditure balancing seems to have been inadequate. Here we will look at one unit's approach to tackling performance monitoring and control, which has been developed independently of the wider annual review system to meet the needs of unit management and, it is implied, the unit as a whole.

The unit general manager (UGM) of Derbyshire Royal Infirmary in Derby (DRI), was the architect of the annual review process which has been in operation in this 550 plus bed general hospital since 1986. Termed the 'ARP', the process is:

> 'a systematic mechanism which requires those responsible for managing at departmental and functional level to think clearly and positively about :- ...
>
> Current use of resources ...
> Future use of resources
> Quantity of current departmental outputs
> Quality of current departmental outputs
> Ditto - future outputs
> The organisational environment within
> their influence
>
> ... and to present and account for this thinking on an annual basis to the General Manager's office.' (DRI, June 1986, 'An explanation of ARP').

Developed in response to the UGM's perception of the need for a system to help the unit to cope with its environment in a hierarchical and self-monitoring but non-bureaucratic way, the ARP was a vehicle for improving management practice. Its underlying philosophy is that departmental managers need a system which is both 'tight and loose', a framework with a shared language and strong expectations of open communication but within which they have new freedom and power. With the support of the general management team and help from a regional organisational development (OD) consultant, the ARP was initially taken up by an implementation team of volunteer departmental managers and subsequently expanded to include 22 departments. ARP was described as sharpening accountability; requiring and encouraging collaboration, cooperation and consultation; and clarifying issues of personal authority and responsibility.

'Accountable managers' from each department coordinate and complete quarterly sets of monitoring forms; once a year a formal review meeting is held where the manager and a team of colleagues meet the general management team (GMT). (The content of these reports is outlined in later steps). The GMT responds rapidly to quarterly bulletin reports, and annual meetings are followed by action sheets. Clinical departments were to have their own annual specialty review process (ASP), with a planning rather than management focus; at the time of conducting this fieldwork the ASP was about to be launched.

Discussing the process of developing the ARP, the UGM and his colleague described some of their reflections and those of participants about: changing needs for a development support group and external consultant, boundaries between roles, organisational learning curves and the long timescale over which NHS culture changes. Workshops had been held to develop meaningful measures and indicators which would generate commitment to use, would be cheap and capable of indicating trends, and could in time be computerised. While (as at mid-1987) a formal annual unit review meeting was still held by the district, the ARP was seen as a potential source of information from the unit to that meeting. (Describing a similar scheme elsewhere, Catchpole, 1986, notes that district: unit reviews had become redundant). In the district, general management was devolutionary in style and the DGM had given the ARP system his full support; he shared with the UGM the view that general management depended on a new management style, vision and systems. In the city's second acute unit, an internal review process was developing independently; and at DRI for the time being the ARP was being kept separate from senior managers' individual performance review. (The relationship between individual and organisational performance is discussed by NHSTA 1986, Brown 1988 and Kenworthy 1986).

A long list of phrases used by line managers to describe the benefits which ARP could bring for accountable managers, and examples of its value for the general manager, suggested strongly that this process had many features both of our double-loop control model, and of its organisational learning 'overlay'. For example, ARP

> 'Highlights interdependencies ...
> Creates "stop and think" opportunity ...
> Regulates changes ...
> Aids objective setting ...
> Keeps me on the right track ...'

And for the general manager it provides a firm focus for

> 'Better information: generated, used ...
> Structured and regular dialogue with managers ...
> Resolves the general manager's theoretical "span of control" dilemma'. (DRI, June 1986, ibid.)

DRI has a strong and experienced general management team; like other units in the district it is tackling some ambitious growth over the strategic planning period to 1994. However, at the point of introducing the ARP it was experiencing some serious problems related to levels of acute activity (too high for this stage in the planning period) and waiting lists (too long, but to bring down would increase activity still further). These are not uncommon NHS problems, and the UGM was beginning to talk to doctors about the cost implications of their work. Trent RHA's operational research unit had also been involved in exploring such problems. What help might our double-loop model provide in terms of, say, maximising the scope for both control and learning to be derived from the quarterly ARP

bulletins and annual reports? And could it help us usefully to harness the DoH performance indicators to the process? The third application of the model considers this next.

Application involving performance indicators.

Later in this chapter I will argue that while it may be reasonable to treat the PIs as tools at the 'control' end of the learning/ control continuum, they can provide insights with a learning flavour too, when placed in a reflective organisational context. In his 'precautionary tale for unit managers', Best (1983, p.64) warned that the then new DHSS PIs could come to be used 'both as a means of prescribing desired performance, and as tools for holding managers accountable for achieving that performance'. Perhaps his assumptions were a little simplistic. So far, the major use of PIs in performance reviews has been as tools to identify matters of potential concern; although the DoH has increasingly stressed the need for their use in routine management practice it does not appear to have used them directly in rewarding or punishing managers. However, as we saw, their use remains limited and Best's early suggestion of their use as clusters of inputs to and outputs from a 'black box' which represents a complex NHS system (or subsystem) subject to a variety of constraints, was valid. Its aim was to prevent targets being set for single indicators which could have undesirable effects on others (gains in efficiency at the expense of effectiveness, for example) as indicators could be ambiguously interpreted and managers' influences over the transformation processes in the black box were constrained. But If PIs are used in a context where service objectives are clarified, and enquiries into how parts of the NHS convert inputs into outputs and outcomes become more common (as encouraged through the ARP, for example), we have less need to treat NHS systems as black boxes. Devolved management control to hospital departments at DRI seems to have moved away from the determinism and external goal-setting of the black box model (Flood and Carson, 1988). At Step 4 an example of the use of the double-loop control/ learning model to bring performance indicators into relatively autonomous explorations of service developments at lower organisational levels will be introduced.

5.7.2 Objectives of modelling.

The main aims of the applications of the double-loop control/ learning model here are:

- to explore its potential at the local NHS level to help managers and others exercise more effective control over their work, recognising that some objectives and constraints will come from the environment or higher organisational tiers;

- to increase understanding of the systemic impacts which such (sometimes conflicting or unexpected) inputs can have;

- to see whether combining learning with control can reduce the potentially coercive nature of the cybernetic model, and broaden the interest in and use of management information (see Holloway, 1988).

We have to accept that the application here is confined to 'exploring' rather than taking action. This combination of learning and control in a model applied to complex organisational systems is not new. For example, as well as the references in Step 1 above, Argyris and Schon (1978, pp. 319-331) provide a bibliography on organisational learning which includes such writers on systems and cybernetics as Beer whose viable system model we could have chosen to apply to this topic.

5.7.3 Confirmation of model choice.

In Chapter 2 we noted a number of factors to consider when selecting an initially-appropriate model to apply in such analyses as these. The following contributed to the selection of a control model incorporating aspects of organisational learning for Topic 2, a combination which so far there seems no reason to reject.

- this is a topic with messy elements, but in which conflicts of value need not be problematic (except in cases such as the mental illness policy-making described above, where values placed by society on different groups of people play a part). It may be valid to look for cybernetic ways of reducing gaps between existing and desired states, although a satisficing approach to the setting of targets and objectives is likely in many contexts. However, in spite of its flexibility there will be occasions when this relatively unitary model will be completely inappropriate.

- in terms of Hopwood's matrix of forms of decision-making considered in Chapter 3, we are dealing with a context where each of the forms could find appropriate application; as the model can be used in a variety of modes as described at 5.7.1, we can check that the way it is applied is appropriate to the levels of uncertainty in the context.

- taking these and other indications of congruence or conflict between characteristics of the context, model and analyst, a score range of 3-4 was obtained, a relatively strong indication that the combination should not pose serious problems of conflicting weltanschauungen (world views) or inappropriate demands on the model.

5.7.4 The basic model application, and its limitations.

We have already outlined the use of the model as a device to explore the needs for organisational learning and impact of higher level inputs when faced with problems of controlling the structural and process aspects of health service performance. We suggested that such problems could exhibit a range of characteristics, which should shape the emphasis in the model towards a point on the learning/ control continuum. Hofstede (1981) has approached the problem of choosing an appropriate type of managerial control for similarly varied contexts and set out a typology which we will apply at Step 5 to evaluate our proposed uses of cybernetic control.

We have seen that PIs can be used, perhaps as part of annual performance review systems, to suggest that something may be going wrong inside the 'black boxes' of health care systems. However, while the black box is a valuable device (and can place a boundary around systems of concern), we will be more interested in designing control processes which afford hospital departments black box status in terms of their autonomy rather than impenetrability. PIs are potentially a source of exception reports (although much of the data used is aggregated), as are other sorts of information used in annual reviews at unit, district and regional level. Adverse exception reports should alert those whose performance they reflect to see what action is required, as well as those with higher level responsibilities who may wish to operate sanctions. These points are relevant in the design of review and control processes.

Some potential dangers or limitations in using cybernetic principles and black box models have already been alluded to - their functionalist assumptions, possible coercive applications, constraints on insights and so on. These criticisms have been levelled at other systems models too and we should be aware of them when applying our model as an analogy or to try out ideas for the design of performance evaluation systems.

These limitations not withstanding, we can check that the model set out in Figure 5.4 is at least intrinsically sound enough for our proposed uses. As with the other topics, the results of the 12 questions posed as a checklist are set out in Table 1 in the Appendix to Chapter 8. The main point which emerges is the need not to push the model too far; it is flexible but in many contexts should be regarded as a sketch pad rather than providing a blueprint. In the case of Derbyshire Royal Infirmary's ARP it may produce new insights into the complex factors affecting aspects of performance, from within and outside the unit.

5.7.5 Step 3, Verification.

The conditions from Chapter 2, Section 2.9.2 have been applied to check that our model, considered to be adequate in itself, also meets the needs of the problematic aspects of Topic 2 such as improving the ARP. The results, set out in Table 2 of the Appendix to Chapter 8, confirm the view of the model as flexible but not of unlimited powers especially where conflicts of value may emerge. In such contexts the model will be useful descriptively. One point worth expanding on here concerns the possibility of testing the model against results 'known to be true'. This can be accomplished to a limited extent through comparison with published articles about NHS control, performance review etc. and by obtaining information about subsequent developments in Southern Derbyshire (the home of ARP) and similar districts and units. While it will not be practicable to identify them here, OD and OR units within the NHS may have corroborative data. (For example, Catchpole 1986, Smith 1987.)

5.8 STEP 4. FURTHER ANALYSIS OF TOPIC 2 - APPLYING THE MODEL TO UNDERSTAND SOME EXAMPLES FROM NHS PRACTICE

5.8.1 Introduction

Some examples of the use of performance information for identifying the problematic areas of acute activity levels in Southern Derbyshire DHA as a whole will be explored in a little more detail here. The examples have been chosen in part because they illustrate a mixture of 'problems' and 'messes' - from technical difficulties of data analysis to organisational politics between the regional, district and unit level. We will note some uses of the DHSS PIs and the contribution which Derbyshire Royal Infirmary's annual review process (ARP) looked able to make towards improving control in future; such actual or potential uses of monitoring data and systems is noted with each example. These points are drawn from documents prepared by Trent RHA and Southern Derbyshire DHA in connection with the 1986 and 1987 annual reviews and short term planning cycles, and the DRI's ARP documentation. Because of the lack of unit-level PIs and tendency for the region and district to aggregate data, much of it refers to acute services as a whole and assumptions have to be made about the contribution to the 'problems' which relate to DRI (although more detail should be available for internal use in the district or unit).

Some examples of primary data from other parts of the NHS, and secondary data which relates to similar problems, will also be noted; many such issues are reported in national and local newspapers and health service periodicals too.

5.8.2 Examples of problems of controlling acute services.

1. Finance and activity levels for basic acute services in S. Derbyshire.

a) The RHA is concerned that in 1986/7 these are already at levels planned for 1993-4.

The DHA argues that 'acute finance targets are wrong'; acute spending as a percentage of the total is lower in S. Derbyshire than in other districts and cost/case PI value is also low.

At DRI the quarterly review bulletin for the annual review process (QRB) and annual report (AR) monitor budget and workload trends, and the general management team offers help to departments.

(Relevant secondary data includes Jones 1986, Bates and Hamm 1989, who discuss problems in interpreting activity data and setting appropriate targets.)

b) The RHA claims that 'Activity is out of control. There is a variation between the planned 1986/7 figures and the forecast outturn of 6000 patients. Is there any credibility in the 1987/8 plan?' The DHA responds that acute activity PIs (throughput, standardised throughput ratios) are relatively low.

At DRI the ARP monitors past and future service commitments - basic services, workloads, developments etc. - through the annual report.

c) The RHA say acute activity must be controlled in 1987-9. A four-year financial plan for acute, community services (where manpower and activity are too low) and mental illness services (where finance and manpower too high) is required. Region says S. Derbyshire's acute activity is 'overheating'. A study by the regional OR unit for the DHA concluded that the district is not 'overheating' on acute activity.

The DRI view cash limits as appropriate, detailed activity targets less so. AR includes reports on proposed developments, improvements, extra activities or things no longer done.

(Similar imbalances and calls for management action were observed in London districts; and see Ham and Hunter, 1988.)

d) District PIs show relatively high number of beds: catchment population, low throughput and occupancy, low level of day case activity; to sustain activity levels within planned manpower and finance targets, greater productivity and efficiency is essential. But any action to bring these PIs nearer the national average is likely to incur extra costs although it should lead to better use of capital resources. The DHA argue that forecasting activity is very complex and hard to get right.

The view at DRI is, if clinicians will contribute to clinical costing, managers will do the budgeting. The QRB & AR seek information on productivity - staff initiatives, morale, quality; AR on unit cost comparisons, cost improvement programmes, positive and negative impacts of various factors on performance.

(Secondary data includes Green and Harrison 1989, Elwood and Prouse, 1986; and other references in Section 5.4 especially Jenkins et al, 1987.)

2. The role of waiting lists in this problem area.

e) Acute units in S. Derbyshire have long waiting lists (inpatient and/ or outpatient) in ENT, ophthalmology, trauma and orthopaedics, orthodontics, gynaecology (not all problems at DRI). Will efforts to reduce waiting lists increase acute activity and spending still further, and will extra funds from the waiting list initiative (WLI) cover costs? (It is a common problem that injecting extra cash for waiting list reduction leads to more activity than planned, extra costs, and more referrals onto lists. However, bids in Trent are supposed to assess such knock-on effects.)

The DHA is approaching lists separately as they reflect a range of problems. DRI are conscious of effect the WLI and other causes of increased acute activity has on community services; trying to plan together, the community unit and DRI made a successful joint bid for WLI funds, making theirs the first community unit to obtain WLI funds. The QRB looks for potential internal and environmental interacting effects. The ARP involves in- and out-patient services managers, and strong links with clinical activity are criteria for participation in ARP; ASP will involve clinicians more directly. QRB reports on inter-departmental and inter-organisational co-operation, and on feedback about things outside the department seen as important.

f) The district generally and DRI in particular, have very few day case beds and little day case activity (usually a cost-effective activity suitable for many minor surgical procedures which often have long waiting lists).

At DRI day ward and theatre developments planned for 1993-5 are now receding even further into the distance.

(But day case data can be unreliable, e.g. incomplete if midnight bedcounts are used; see Elwood and Prouse 1986, Prouse 1987.)

3. Links between acute activity problems, manpower and capital and service developments.

g) S. Derbyshire has a high level of capital schemes to 1994, some already slipping. The DHA argue that the whole acute strategy needs reviewing; targets are disputed.

DRI Phase II development delayed opening for 6 months due to lack of revenue for planned manpower levels and even when money was provided they couldn't get staff - a 'genuinely unanticipated problem' (DRI unit general manager).

DRI bed numbers are set to rise further, from 557 in 1986 to 758 in 1994. The QRB & AR now monitor recruitment, use of staff and space, time lost through absence. QRB emphasises inter-departmental co-operation as key factor in implementing change.

4. Problems related to imbalances of investment in services, lack of clarity of data definitions within and between NHS levels.

h) S. Derbyshire's elderly activity levels (deaths and discharges) at 1987/8 were only 44% of planned 1994 level although finance and manpower were at 95% and 92% respectively. But the large proportion of elderly work done in acute beds increases pressure on acute services (again a common problem). The DHA argues that over 65's are not only treated in geriatric beds, so the level of activity is higher than shown; and distinguishing acute/ elderly/ general medicine activity is likely to get harder as geriatrics and general medicine share a ward in new DRI elderly unit.

i) DHSS, management accounting framework and regional definitions of 'basic acute' services differ. MAF approach takes time to build into regional culture; regional staff need to work with S. Derbyshire to increase understanding of implications of it. S. Derbyshire is not regarded by region as a strong performer in terms of planning, use of PIs etc. (See the DHA's arguments at d. above about forecasting etc.)

DRI are relatively skilled here, as suggested by their awareness of impact on community services at e) above. A regional planner told me in an interview that the annual review processes being developed at DRI and Derby City hospital had 'brought S. Derbyshire up in the performance stakes'. QRB emphasis on inter-departmental and organisational co-operation, and perceptions of how other departments or environment affect work of department, helps here; so does AR on defining core purpose and impact of department on the hospital.

So to sum up the nature of the 'performance evaluation failure' in Topic 2, which the above observations and references exemplify, it may be categorised in terms of:

1. Acute hospital activity is out of step with (ahead of) the strategic plan, with the risk of serious overspending, yet PIs and waiting lists show comparatively poor performance and scope for higher activity levels.

2. Both strategic targets and activity data have been questioned for value and accuracy.

3. Frequent monitoring is urged by region on district, to increase understanding and control.

4. Action to reduce waiting lists is likely to exacerbate the acute services overspending problem unless acute facilities can be used more efficiently.

5. Implementation of other parts of the district strategy is experiencing problems too, affected by acute services provided by DRI and Derby City hospital.

6. Available NHS management information systems have shortcomings, and not all districts and units have staff very skilled at using them effectively.

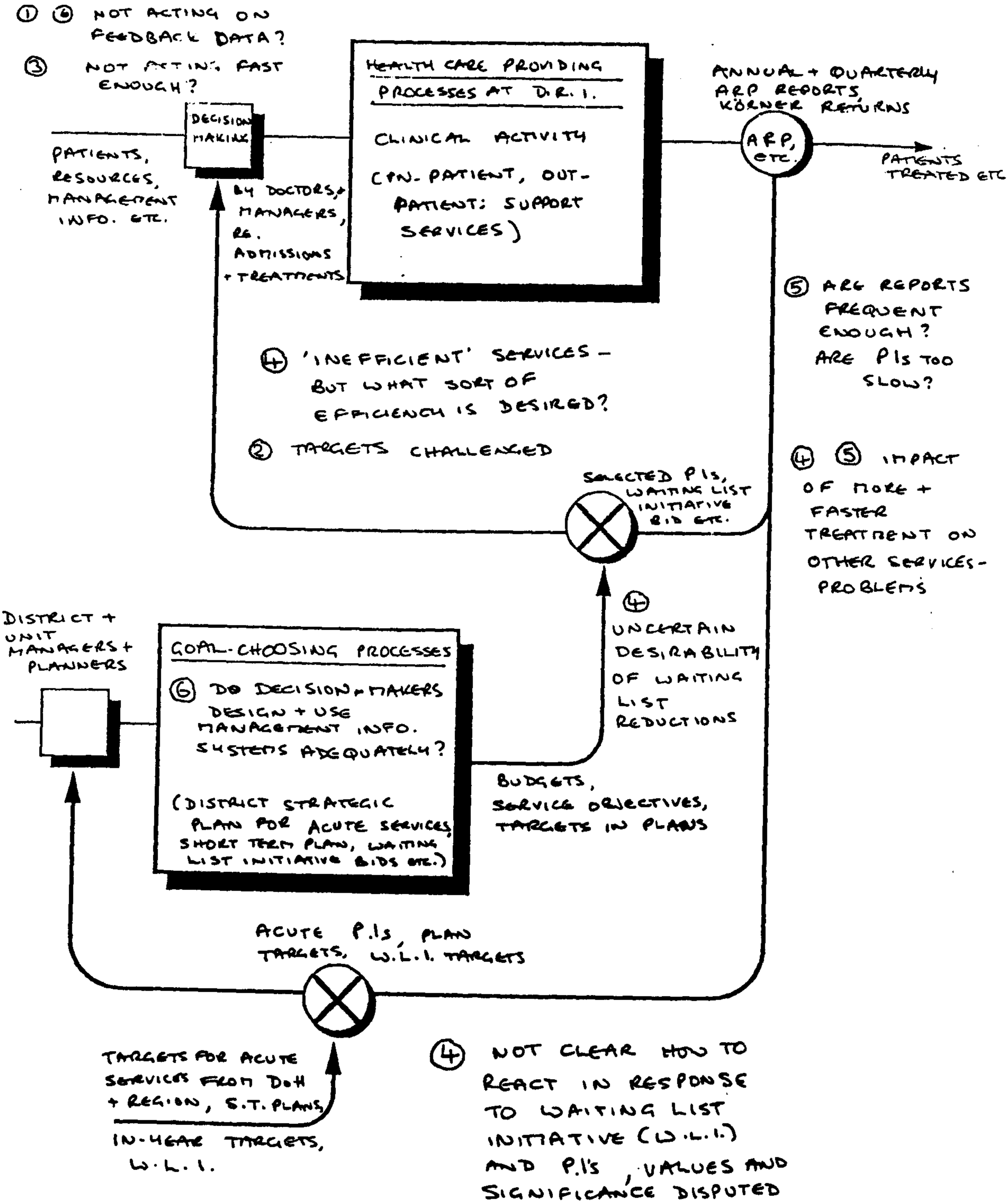
For each of these areas, insofar as they impinge directly on the work of DRI, its Annual Review Process can contribute; and the unit general manager indicated that the less directly relevant areas were also taken into account in decision-making.

Figure 5.7 suggests that these may have some systemic explanations (our second sort of outputs from Step 4), in terms of weak points in the double-loop control/ learning model. It indicates the roles of a number of structural elements within DRI and impinging on the unit from the wider NHS system, and the processes which occur in the pursuit of targets and implementation of plans - represented as a nested control loop. The points numbered 1-6 above, are mapped onto Figure 5.7 indicating where and how they may be relevant to problems arising within that control loop.

At Steps 5 and 6 we will explore some changes to the sorts of structural arrangements and processes which have been described in this chapter so far, and see if they may improve these aspects of control.

The validation criteria set out in Chapter 2 have been applied, to check that the model is an adequate representation of the phenomena of interest, for the purposes of the study. Again the results are set out in Chapter 8, Table 3 of the Appendix, and provide an endorsement of the application of such a model here. Next, we turn to the consideration of action to remedy some of the problems described above.

Figure 5.7 Controlling acute activity: processes and problems affecting DRI.

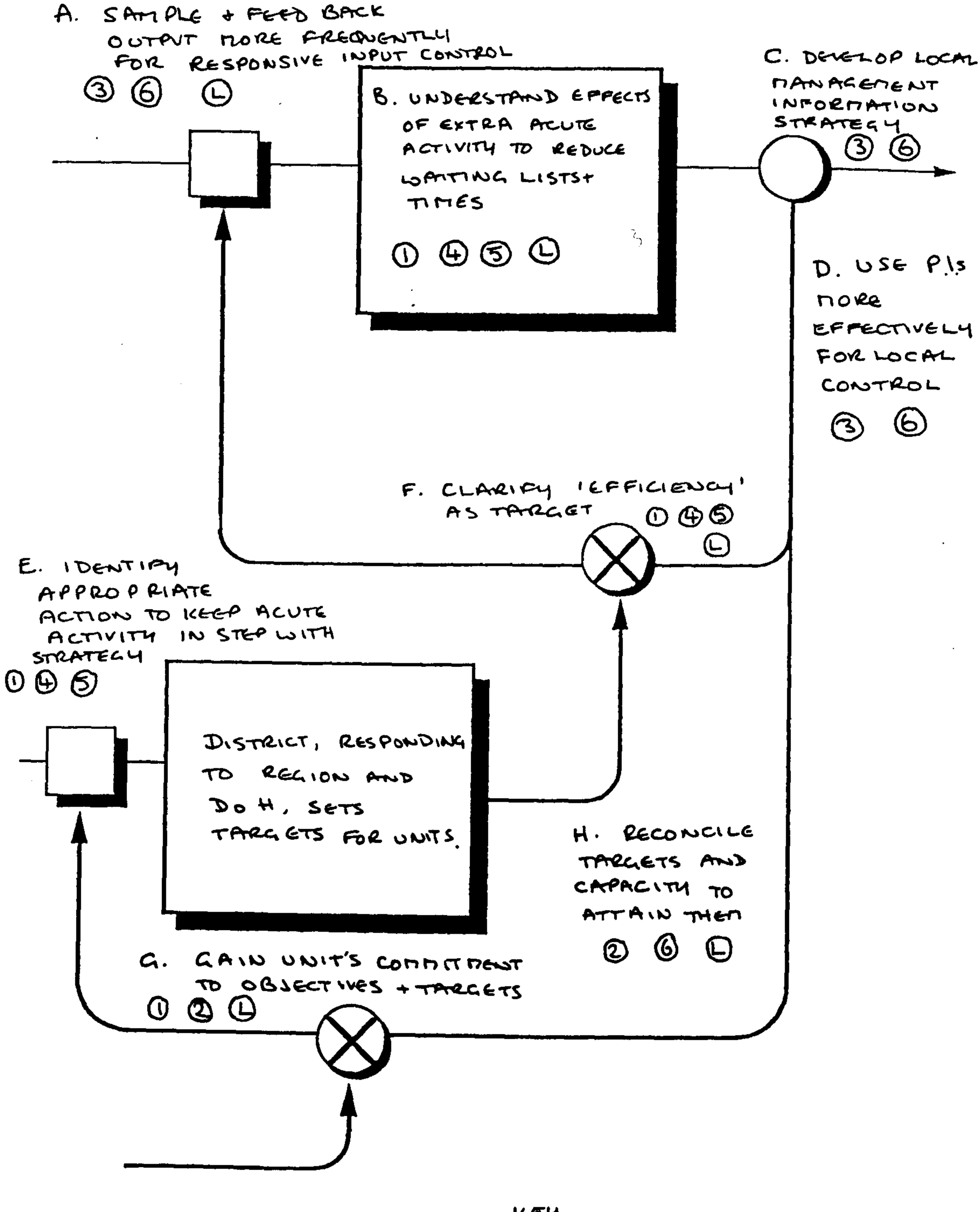


5.9 STEP 5. DESIGNING CHANGES.

Taking Figure 5.7 as a 'map' of where instances of the six problem areas are manifested and amenable to change in the context of an acute unit like the DRI which has targets set by the district, Figure 5.8 indicates the scope of a few suggested changes. The letters A-H identify the proposed activity changes, which are discussed [on the following pages]. Some of these involve tackling 'the problem' from a different point, 'upstream'. Several of them involve stepping back from the relatively technical detail of management information systems, and addressing revealed needs for organisational learning as well as, or instead of, resolving a control problem; they are indicated by the letter 'L' in a circle on Figure 5.8. The problem types 1-6 which would be addressed by each of the changes are also identified on the diagram.

In each case there is a recognition of the double-loop nature of the health service systems involved - control activities are frequently subject to changes either because of new targets being set for the next level up (e.g. policy changes), or because inputs from the environment change more or less predictably (e.g. ageing, and accidents). In a sense such adjustments to control processes are examples of single loop learning, whereas a more reflective consideration of the values and assumptions underlying the need for control - which may lead to changes in priorities and policy objectives - is double-loop learning. (Edmonstone, 1988a,b, draws out this distinction too when evaluating 'incremental' and 'developmental' approaches to NHS manpower planning, supply and education.)

Figure 5.8 Suggested changes in response to the control problems shown on Figure 5.7.



KEY.

○ EXAMPLES OF 6 TYPES OF PROBLEM LISTED AT STEP 4

Ⓛ NEED FOR ORGANISATIONAL LEARNING IS AS GREAT AS NEED FOR CONTROL

A. – H. – REFER TO TEXT IN SECTION 5.9 + TABLE 5.1.

Incorporating a feedback check.

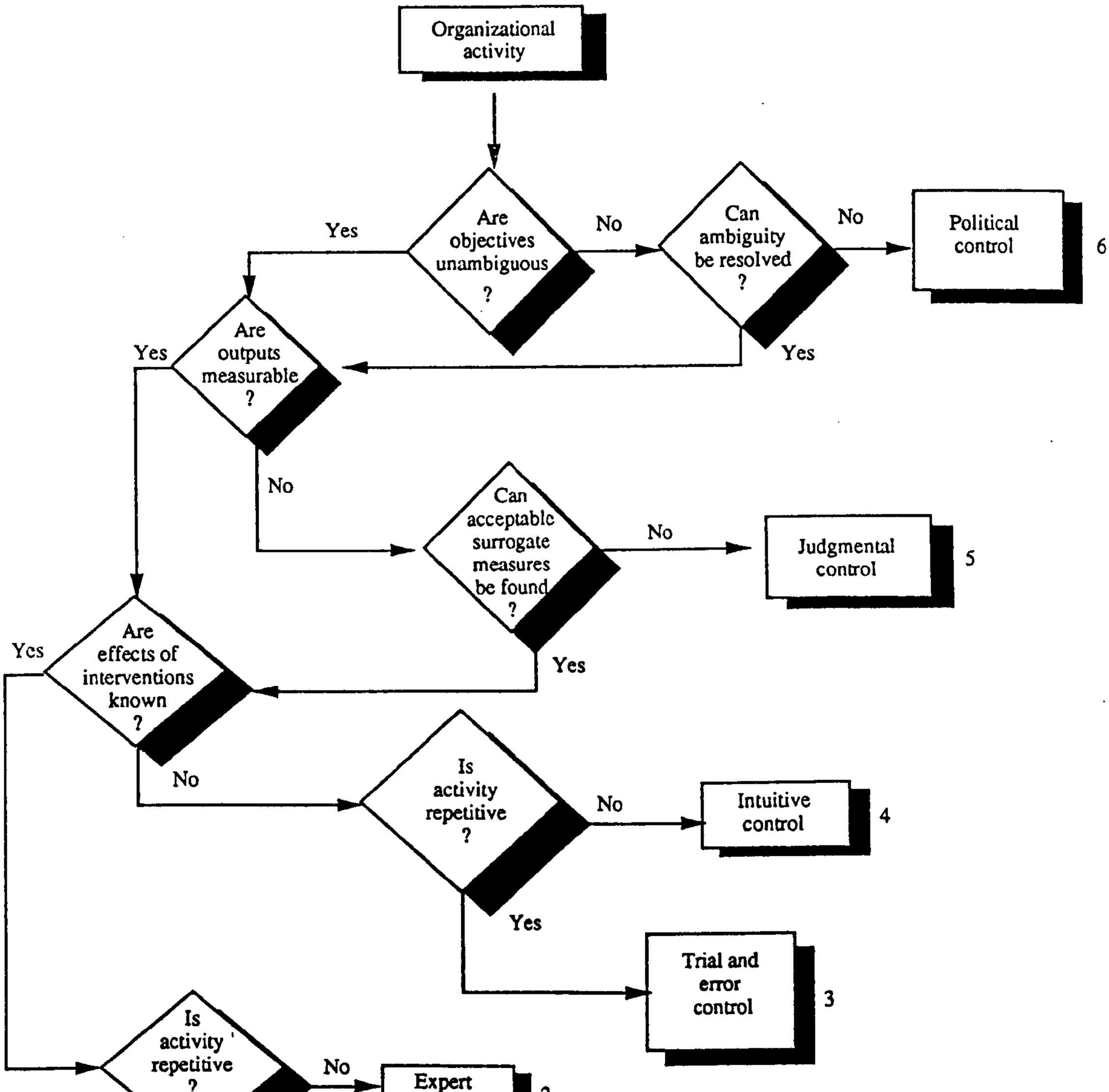
The aims of the modelling, set out at Step 2, included exploring how the double-loop model could be used by managers and others in exercising more effective control. The six problem types illustrate a variety of control issues, some implicating the way individuals or groups respond to management information, others reflecting a wider lack of understanding of complex interactions locally and/ or in the NHS generally. Hence the varied sorts of suggested changes which follow.

The ten-step analytical process suggests that where proposals are made to ameliorate the instances of performance evaluation failure (here exemplified by experiences in Southern Derbyshire DHA), the systemic desirability of the changes should be checked. As a means of evaluating the suggested changes here, we can turn to the typology for management control of public and not-for-profit activities, set down by Hofstede (1981). He outlines six types of control from which an appropriate selection can be made in the light of a positive or negative response to four key criteria:

> '1. objectives are unambiguous;
>
> 2. outputs are measurable;
>
> 3. effects of interventions are known;
>
> 4. the activity is repetitive.' (p. 196).

Hofstede's typology is reproduced at Figure 5.9, followed by definitions of the six types of control. In using it to select an appropriate sort of control for a management context, it is necessary to consider the environment, system and subsystem interconnections, behaviour, objectives, constraints and dynamics. So as we outline the points A-H for attention, and possible action, if we look to see whether the action would appropriately involve one or more of Hofstede's six types of control we will implicitly be considering systemic factors, and explicitly framing our suggestions in ways which draw out their control aspects. Table 5.1 summarises the suggested activity changes and appropriate types of control which these imply.

Figure 5.9 A typology for management control (after Hofstede, 1981).



Drawing on Hofstede (1981), the six types of control can be defined as:

Type 1 - routine control:

> prescribed by precise rules, decisions by junior staff or maybe computerised.

Type 2 - expert control:

> infrequent activities but, for an expert, they are repetitive.

Type 3 - trial and error control:

> '... the organization can learn to control through its own failures. ... a thorough *ex-post* analysis of both successes and failures is called for. Examples are the introduction of new products, services or treatments; and the budget cycle for current operations.' (p.197).

Type 4 - intuitive control:

> '... management control as an art rather than as a science, ... [using people] who can be trusted to intuitively find the proper form of intervention needed to achieve the desired results.' (ibid.)

Type 5 - judgemental control:

> 'depends on the power and influence structure of the organization whether there is one supreme judge (or coalition of judges) whose judgement is the basis for intervention; whether judgements have to be negotiated before intervention becomes possible, or whether no judgement is possible so that control happens only by accident or not at all.'

Type 6 - political control:

> is always operated when objectives are ambiguous and it is 'dependent on power structures, negotiation processes, the need for the distribution of scarce resources, particular interests and conflicting values; however, political control at the top of an organization can go together with other forms of control inside the oganization, because for the members, the political top may have resolved the ambiguities'. Ambiguity may have three sources: '1) conflicts of perceived interests and/ or values; 2) lack of knowledge about means-ends relationships; and 3) environmental turbulence.' (ibid. pp. 197-8).

Table 5.1 Proposed activity changes for DRI, and type of managerial control - Summary.

Activity change proposed in Figure 5.8	Appropriate type of managerial control
A. Sample and feed back output more frequently for responsive input control.	A. Type 3, or possibly 4.
B. Extra acute activity to reduce waiting lists and times.	B. Type 1, 2 or 3 if repetitive; else Type 4.
C. Develop local management information strategy.	C. Type 4 initially, then Type 3.
D. Use PIs more effectively for local control.	D. Type 1, 2, 3 or 4 ; occasionally Type 5.
E. Identify appropriate action to keep acute activity in step with strategy.	E. Potentially all 6 types.
F. Clarify 'efficiency' as target.	F. Type 6; plus Type 5.
G. Gain Unit's commitment to objectives and targets.	G. Types 5 and 6.
H. Reconcile targets and capacity to attain them.	H. Types 5 and 6.

These suggested changes (A-H) located on Figure 5.8, are expanded upon a a little below. To check their systemic desirability appropriate types of managerial control, from Hofstede's typology, are identified; and implications for practice are noted.

A. Sample and feed back output data more frequently, to enable more responsive input control? More frequent monitoring will only be of value if management information systems (MIS) are adequately understood by all concerned (i.e. most staff). The ARP is promising in this regard, and ASP will help; but many clinicians will probably need extra persuasion and encouragement (see Holloway, 1988). Is appropriate action on existing feedback more important? A learning issue.

(Type 3 - trial and error control may often be appropriate (as Hofstede's example suggests, above). Be alert for occasional need for type 4 - intuitive control.)

B. Extra acute activity to reduce waiting lists and times? Waiting list activity needs to be especially well understood (impacts on other parts of service, clinical outcomes etc.), appreciated and controlled. There is a need to negotiate shared use of scarce resources.

(Type 1, 2 or 3 control if the activities involved are repetitive; or
Type 4 - intuitive control - if not repetitive.)

Implications for practice: the latter seems appropriate in the S. Derbyshire context where trial and error control may not always have been adequate when there was competition for resources; suggests a role for a charismatic manager who can rapidly obtain trust, information and co-operation from many disciplines.

C. Develop local management information strategy to: ensure Körner and other centrally-required data is collected accurately and used fully; collect and use unit and sub-unit level data to fill gaps and provide more detailed information; at DRI keep improving ARP and ASP, computerise it? Need to know about dynamics - time lags, cyclical changes; as understanding increases, it may become possible to use feedforward control.

(Type 4 - intuitive control initially, then type 3 - trial and error.)

The introduction of the ARP is the work of a person (the UGM) who used personal skills and intuition to develop the system and then established a more repetitive format. An adaptable information strategy would need intuition before becoming routinised, and need to retain an intuitive capacity at management level. Some aspects (e.g. straightforward data collection) may be suitable for routine or expert control.

D. Find ways of utilising PIs more fully and effectively for local control? The CASPE study (Jenkins et al., 1987) showed general under-utilisation of PIs; planners at Trent RHA saw S. Derbyshire as a relatively poor user of PIs although DRI staff may be good. It is hard to use PIs as short-term feedback sources but could set targets related to strategy, noting implications; then use as framework for presenting comparisons with other places or times to those making explicit policy choices (e.g. DHA) or implicit ones (e.g. doctors); and try to engender more enthusiasm for using information.

(Type 1, 2, 3 or 4 control on many occasions.
Need to develop a range of approaches, for investigation, invention, sustaining enthusiasm as well as routine uses. May need judgemental (type 5) control at times, and resist use of PIs as anything other than indicators.)

E. Identify appropriate action to keep acute activity in step with strategy. There is a need first to clarify priorities, understand effects of interventions etc. Who needs to contribute to decisions in order to appreciate effects (e.g. risk of positive feedback)? Can more efficiency make better PI performance feasible within strategic targets? How much is known about current efficiencies, and how to adjust them?

(Type - potentially all 6 types of control
- as decisions may involve each type of ambiguity which cannot be resolved. Some ambiguities should be resolved by higher levels (e.g. region, district), taking policy decisions; these would then feed in from activities F. and G. Remaining ambiguities which are likely to be a problem at the district or unit level implied by D. above should respond to negotiation or the attention of experts, reducing tendency for control by crisis - forced decisions - which happen often in the NHS.)

Implications: as decisions about how to exert more appropriate control over acute activity impinge on other services too, a full repertoire of control types is needed.

F. If there is a goal of improved 'efficiency' it needs clarification before targets can be set - how is efficiency defined? How should actors respond to feedback indicating unexpected deviations which may have implications for clinical practice? New types of target, as well as levels, may be required. A learning issue.

(Type 6 - political control initially, to decide appropriate definition of 'efficient' acute services; could mean use fewer resources, or pursue more outputs with current resources, etc.; different definitions will please different interested groups. May involve prioritising e.g. reallocating beds between specialties, requiring authority/ power.
Then the other five forms of control will have a place in improving efficiency, and any other new types of target.)

G, H. So long as priorities and objectives that are set for district/ unit by region/ district are ambiguous, a unit in DRI's position can respond 'selectively' and control relatively easy aspects of performance (acceptable to organisational and professional cultures and politics). Targets and data quality which are open to criticism on technical grounds are hard to enforce or gain commitment to. Higher levels need to address for example the co-ordination of management information, IT training and strategy development. When performance data is fed back to higher order comparator (e.g. receipt of waiting list figures by district from units), persistent deviations, such as increases despite extra resources, should prompt reflection about what is happening and why. Are the targets achievable in light of lower level's capacity for control, is positive feedback occurring, are objectives understood etc.? A learning issue.

(Type 6 - political - and 5 - judgemental control.
Other forms may be appropriate too but higher organisational levels need especially to address their ambiguity-resolving and authority-exerting responsibilities. These can include overseeing lower and relatively autonomous levels through exception reporting, provided adequate procedures are in operation.)

Implications: if lower levels consciously address control (as with DRI's ARP and ASP), higher levels need to adopt a 'tight and loose' approach too, resolving ambiguities and arbitrating or deciding if local 'disputes' are hard to resolve because of higher level disagreements. Expecting partially flawed management information (e.g. PIs) to be accepted uncritically is not realistic and the higher level has a role to play in improving these systems as well as encouraging their informed use.

Thus in Step 5 a few possible changes have been explored in the way a unit such as Derbyshire Royal Infirmary, in its district context, monitors and attempts to control performance. We have focused on some problematic areas identified in Step 4 which may be common to many health authorities; this wider relevance is suggested because as we have seen, DRI has been active in devising its own annual review process and yet still experiences difficulty in controlling acute activity. For most of the proposed activities, there will be a need to resolve ambiguity of objectives; for some, surrogate measures will be needed; and the effects of clinical and non-clinical interventions alike will rarely be fully predictable. In a number of cases the need is for better organisational learning before control can be more effectively and constructively exercised.

The systemic desirability of our changes has been checked the by identifying relevant types of control required to effect the suggested improvements from among Hofstede's six types, which themselves take a number of systemic factors into account. Our concern with control has not had a narrow cybernetic focus on inputs to a 'black box', but has also looked for wider, organisational process and behavioural aspects. This wider view has been possible because of the way in which the double-loop model is constructed such that it incorporates learning and reflection on objectives, as well as the control of actions in pursuit of objectives.

In Step 6 we will note a few points which those from whom the examples of control problems were drawn (such as the designers of the ARP at Derbyshire Royal Infirmary, and planners and managers at S. Derbyshire health authority) may need to consider if they were to implement such changes.

5.10 STEP 6. IMPLEMENTATION: SOME POINTS TO CONSIDER.

From the ideas for change in Step 5, we will note both technical and organisation cultural factors which could make their implementation more or less feasible.

Taking the concern with controlling acute hospital activity, as managers at DRI recognise, even if more detailed and accurate data about clinical activity were available there are barriers of professional culture which lead many clinicians to resist participation in clinical budgeting and the use of PIs. A number of studies (Jenkins et al 1987, Stocking 1985) suggest that such innovations are more successful if they have a 'champion' from within the group or discipline. If someone at the hospital level, or influential within their specialty, were to provide encouragement for the use of data for understanding the implications of present and alternative patterns of clinical activity, a wider and more effective repertoire of control could be developed.

In many clinical contexts our model could make the case for Hofstede's 'trial and error' control, professionally led rather than managerially imposed. However, when the need is of a new sort such as making and spending bids for funds from the waiting list initiative, then treating what may become repetitive activities with intuitive control initially seems advisable. Even with this mode, which the UGM introducing the ARP and ASP at Derbyshire Royal Infirmary seems to have adopted, waiting list initiatives have proved hard to control. This is partly because although such schemes involve precise, quantified bids for routine activities (such as for £50,000 to treat an extra 400 orthopaedic in-patients in a year), their objectives have an element of ambiguity. GPs may interpret the scheme as having the objective of reducing the time that new patients they refer will be treated in, rather than reducing the existing backlog. Based on the estimated costs of treating 'average' patients from, say, the hip replacement waiting list in two extra weekly theatre sessions, left to trial and error control from the start the scheme may be overcommitted - patient costs may turn out to be above average, GPs may refer new patients more readily - and lists not reduce; rather, the queues will get longer. So at first the calling of extra patients and running of new theatre sessions may need frequent monitoring and appropriate management style will help to make this acceptable to clinicians and support staff. These considerations are relevant to integration of the input, process and output-related developments suggested at A, B and C on Figure 5.8.

Such considerations are even more important if multidisciplinary negotiation over allocation of resources (suggested in connection with activity B, and relevant to G and H too) is to succeed. Such discussions may be most productive if power alliances are anticipated, techniques are available for pursuing consensus, and an expectation of gradual learning rather than a quick-fix solution is engendered. (See Lewis, 1989).

The promotion of greater use of PIs and other management information (suggested at D above), may require careful planning, monitoring and control in itself. Different forms of control will be appropriate to suit organisational responsibilities, specific service needs, stages in a scheme and so on, including even political or judgemental control in the negotiations between management and clinical professions.

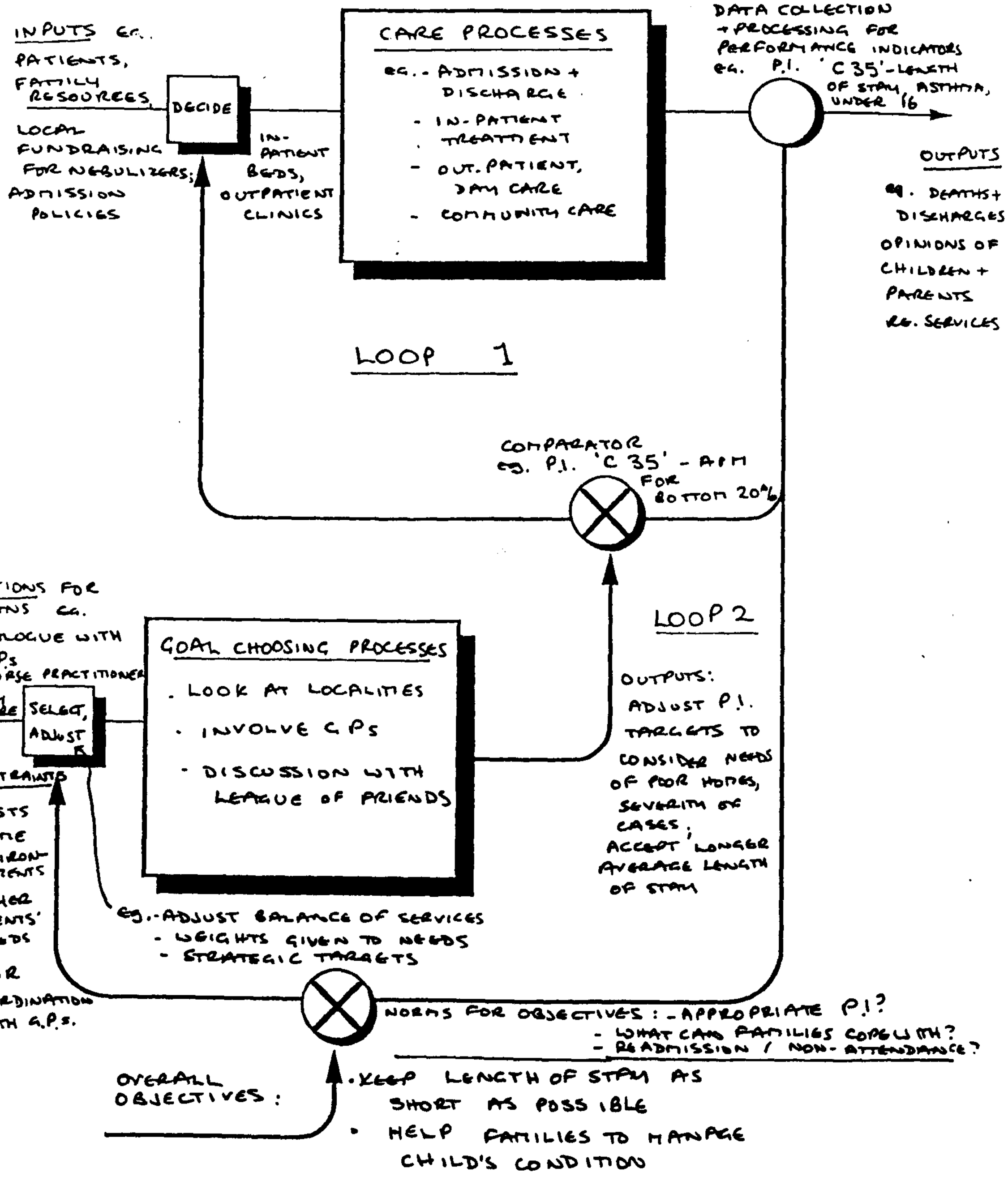
The four final suggested changes on Figure 5.8, involving new performance measures, the reduction of ambiguity in the requirements higher NHS levels place on lower ones, a systematic approach to management information and so on (E-H above), emphasise the potential complexity of re-assessing control needs systemically - and also the potential rewards. At NHS organisational levels relatively close to patient care, where concerns are dominated by operational plans and rapid decisions about the use of resources to meet short-term needs (our structure and process concerns which are to the fore in this topic), there is still a need for a wide range of control responses. While political and judgemental control may not be required very often once routines are established, they are necessary for responding to internal and external change. Our study of the DRI's annual review process indicated that as well as possessing these skills himself, the UGM in his requirements of departmental managers (to identify problematic interactions within and from outside the hospital, for example) was instilling a wider awareness of them. The ARP also thus encouraged individual and organisational learning, encouraging reflection on practice as well as outputs.

Using the model to link performance indicators to double-loop control.

Figure 5.10 describes a hypothetical scenario of the integration of some clinical performance indicators into the double-loop model such that different types of control are applied at the sub-unit level (Loop 1) and unit or district level (Loop 2). The context is a situation where more frequent diagnosis of childhood asthma, and interest among hospital League of Friends and other fundraisers in purchasing medical equipment for children's wards, is contributing to unplanned (and unfunded) growth in activity. Loop 2 decision-makers - perhaps members of the district medical committee, clinical directors and unit management team - need to find new ways to establish control to avoid having to withdraw services. They are prompted to set explicit objectives for service provision, which they will have to keep under review. They may start with judgemental control, to establish a framework for investigation; as some acceptable measures for the changing service are identified then intuitive control will become feasible. In refining service parameters with a view to setting medium-term targets including PIs, Loop 2 will be very much a learning process. Meanwhile, those making day to day decisions about treatment in Loop 1 have by and large been exercising routine or expert control. Any target which they were aware of (beyond individual clinical aims) would not have been adjusted to reflect new objectives and constraints. DHSS PIs such as the indicator 'C35' - length of hospital stay for asthma, child under 16 - would probably have seemed of little relevance. However, as many hospitals may be faced with a need for greater control and service co-ordination, this sort of indicator can be used as part of a wider overview, an active consideration of what kind of service is desired and affordable. This would reduce the risk of large swings in quality and quantity of service for children with asthma and wide discrepancies between different districts or hospitals. Loop 1 control could settle down as type 1 or 2 again, but with the capacity to change to a mode better suited to coping with uncertainty (e.g. the introduction of a potent new drug) if necessary.

In Steps 7 and 8 we will return to consider the roles of cybernetics and organisational learning in controlling processes, in particular.

Figure 5.10 Performance control and double-loop learning - using PIs for children with asthma.



5.11 STEPS 7 AND 8 - ASSESSMENT OF THE PROSPECTS FOR DOUBLE-LOOP CONTROL, AND EVALUATION OF THE MODELLING APPROACH.

Our analysis of Topic 2 has centred around the view that controlling structural and, particularly, process elements of the NHS effectively requires a certain degree of sophistication. Those charged with effecting control need to be able to summon up a variety of skills, tools, sanctions and so on to match the influences which can act on health care provision and divert it from its planned path - Ashby and Beer (op. cit) call this 'requisite variety'. Activities with the potential to command scarce resources and, when aggregated, to constrain other activities, can rarely be controlled without some form of feedback, so we turned to cybernetics to provide a model. That this is not too far-fetched an idea was borne out by an internal paper by a DHSS operational research analyst who identified a number of practical contributions which control theory could make to central policy making, particularly in alerting policy makers to potential positive feedback effects (personal communication).

In identifying six types of control within a contingency framework, Hofstede (1981) argued that in conditions where 'objectives are ambiguous... outputs are not measurable... or the effects of a once and for all intervention unknown' (p. 199), a cybernetic model did not apply. This precludes even a multiple loop variant, with feedforward control (such as developed by Cantley, 1981) being of value to, for example, health service strategic planning. Logical though his argument is, cybernetic models can play a role even in such circumstances. First, a cybernetic model can alert observers or organisational actors to inappropriate assumptions which may hamper effective performance evaluation. For example, the ambiguity of health service objectives, and uncertainty of the effects of both one-off and repetitive interventions are often denied or not recognised. Trying to build a cybernetic model can identify these factors and prompt decision-makers to address them - either to resolve the ambiguities and uncertainties, or at least to recognise them when evaluating performance of lower levels. And in the NHS, people are all too ready to abandon the possibility of measurement if an obvious proxy is not available; the slow progress in assessing outcomes and quality of care bear this out. Using a cybernetic model and experimental proxy measures can still produce useful insights into control problems although it may not be a tool for exercising control per se.

Where Hofstede turns to non-cybernetic models for control in type 4, 5 and 6 circumstances, we have retained the double-loop structure but looked to feedback and comparison to initiate reflection and learning, after the work of Argyris and Schon (1978). (Recall, for example, that in applying the double-loop model to illustrate changing policies for services for people with mental illness at Step 2 (Figure 5.5 above), we did not consider analysing them in terms of the detail of their feedback control. Rather, the lack of reflection on policy

appropriateness was our concern - an indication of the limited value of simple cybernetic control models at this level of policy making). Argyris and Schon's assessment of six examples of 'incomplete although high quality' interventions makes a strong case for double-loop learning in management information and control contexts such as those which the examples and diagrams in this chapter have attempted to illustrate. In the last two of these, Figures 5.8 and 5.10, some specific suggestions for changes to processes similar to those observed in the field were suggested. Using Hofstede's typology as a diagnostic tool, opportunities for organisational learning were suggested for those instances not amenable to cybernetic control. Reflection on practice was also suggested in some more routinised and quantifiable areas as well, as some observed control 'problems' had their roots in an 'operation was successful but the patient died' attitude.

The example of the DRI Annual Review Process, and other similar developments which have become more common since the introduction of general management, suggest that the notion of double-loop learning would be appreciated by those NHS managers not yet acquainted with it. The growth of organisational development and change management consultancies corroborate this. We have illustrated the scope for using quantitative PIs, for all their faults, within a learning framework and many more examples could be given. However, this chapter has concentrated in the main at operational levels, and in a sense consolidated developments where awareness of the role of organisational culture and fear of change was already present. In the next chapter some strengths and weaknesses in applying another cybernetic model - Beer's Viable System model - to a culture-laden change, will explore some of these issues further.

Although Sections 5.1-5.5 of this chapter discussed the national annual review arrangements, from the DHSS to districts and (in less detail) units, we have confined our attention here largely to an internal rather than inter-organisational review process. However, the annual review questionnaires did suggest that learning and constructive suggestions were becoming more characteristic in the top-down annual review system, in place of antagonism. The review process is bound to change following the 1989 NHS White Paper, and the nature of relationships and outcomes of future review meetings will be interesting to explore. The analysis of topics 1 and 4, planning and outcome assessment, touch on some inter-organisational relations and in each case, the contribution which double-loop organisational learning could make to performance is considered.

Finally, as a preliminary appraisal of the value of the application of our double-loop learning and control model to Topic 2, the modelling application has been checked against the list of questions set out in Chapter 2, Section 2.6.4. To summarise the main conclusions, the model has introduced a number of ways of exploring common, persistent, sometimes messy problems which can hamper both everyday service delivery and the longer-term attainment of strategic objectives. It has been simple to apply here, and has the potential to

be used in more in-depth investigations as well as in routine - even domestic - contexts where we wish to check that our responses to feedback are appropriate to our aims.

Sections 5.1-5.5 answered the key research question posed in Chapter 1 - 'what are the perceived purposes of the annual review system, and has it got a part to play in organisational learning?' - in the affirmative with regard to national arrangements. Here we can also agree in the case of the process developed at Derbyshire Royal Infirmary, and taken together these analyses largely discount the view that such processes are merely a vehicle for top-down constraints. While they have such a potential, there are easier ways for the top - locally or nationally - to impose constraints, and the review processes have considerable two-way impacts.

As we noted at Step 1, the model is highly simplified. This is a benefit in that it permits many comparisons between model and reality, (and between different real world examples) although clearly the assumptions which this makes must be recognised. The model is sufficiently flexible to operate at any level on each dimension; and applying it to different hierarchical levels illustrated the control/ learning continuum. At each level it could be used for further analysis of areas of particular interest and could be developed as a management tool, both for planning interventions and controlling them once set in motion.

In response to the question about the logical derivation of the conclusions from the study, there is less potential for unsubstantiated analyst bias with this model application than some others, especially as the issues were not highly value laden and the model built on positive efforts to resolve commonly recognised problems.

CHAPTER 6. 'NEVER MIND THE QUALITY...'

6.1 INTRODUCTION TO TOPIC 3: IMPROVING THE QUALITY OF NHS CARE.

The broad area of quality of care could readily form the focus of all of the modelling activity, and source of all the data for this research. 'Quality' embraces many dimensions of performance, as a variable of the structure, processes and outcomes of the health service, (as Figure 3.2 illustrated). Concern to measure and improve aspects of quality has grown steadily since the early 1980s in the NHS. So also has activity. The outcomes of this measurement and activity are, however, harder to evaluate. Nonetheless, since the Griffiths Report (DHSS, 1983) put explicit discussions of quality on the agenda at each health service level, considerable attention has been paid to the development of approaches and tools for assessment and change, with gradually increasing pressure from the Department of Health.

There is considerable debate about the meaning and use of terms such as quality, quality assessment, quality assurance, quality control and quality management. While within health services there are hundreds of definitions of quality and many versions of what quality assurance 'really means', little is served by arguing over terms except to illustrate the problematic nature of the concept of quality. (Agreeing on definitions of other variables of complex things is not always easy, of course - think of the many perceptions of the 'size' of a city or a problem.) The definitions given here are chosen to capture what I feel are the important aspects of quality and its evaluation in the present context.

- 'Quality of health services' will be taken to mean 'Safe, effective, acceptable and appropriate care rendered by competent providers on the basis of efficacious technology' (Blanpain, 1985). This is compatible with Maxwell's definition in terms of: access to services, relevance to (community) need, effectiveness (for the individual), equity, social acceptability, efficiency and economy (1984, p.1471); once such dimensions are separated out, devising quantitative measures becomes more feasible.

- 'Quality assurance' will be assumed to be equivalent to the definition of the World Health Organisation (Vuori, 1982): 'the measurement of the actual level of the quality of services rendered plus the efforts to modify when necessary the provision of these services in the light of the results of the measurement.' (ibid., vii.)

- the newer concept of Total Quality Management (TQM) will be defined in detail in Section 6.3.1. Taking 'quality' as 'continually satisfying customer requirements', TQM as defined by PA Consulting Group comprises achieving quality, at lowest cost, 'by harnessing everyone's commitment'. TQM is generally used in the context of systems for achieving, within an organisation, intermediate and final outputs of the sort of broadly-defined quality envisaged by Maxwell; so its commercial origins need not be incompatible with the NHS.

Other people may prefer other definitions and this mixing of the objective and subjective aspects in communication is mirrored by some of the difficulties in choosing how to measure and change quality in health care. Nonetheless, when we discount some of the dimensions which are not commonly regarded as qualitative, we are left with some aspects of health care which are extremely important to receivers and providers alike.

In this chapter then, ways in which the NHS addresses the issues of quality measurement and improvement in the context of performance evaluation will be described. We will be examining systems methodologies and models to see how one or more can be used to help the NHS put the desire to improve the quality of service, into practice. The familiar ten-step analytical process has been applied, in a slightly different order to Chapters 4 and 5 and developing a focus on a particular approach to quality improvement - total quality management or TQM. Once again the treatment of Steps 9 and 10 will take place in the final chapter.

6.2 STEPS 1 AND 2 - CAPTURING 'QUALITY'.

6.2.1 Choosing a model for Topic 3.

Earlier chapters have already introduced some of the issues raised by health care quality assessment. In Chapter 3 the relationship between qualitative and quantitative measures of performance was considered, and we noted the concerns of Pollitt (1986a, b) and others at the dominant role which top-down efficiency measurement has played in public service

performance evaluation in the recent past, to the virtual exclusion of quality assessment. We saw how Maxwell's dimensions were interconnected and relevant to the objectives of the NHS; and they continue to be cited frequently as indicators of the scope of quality assessment although much activity in the name of quality assurance is focussed on just one or two of them. Models and practices from the commercial and industrial sectors and health care systems which are largely privately funded (such as the USA) are frequently drawn on; but Maxwell's dimensions remind us of the additional special characteristics of the publicly-funded NHS. In this chapter we will look at the benefits and limitations of building on private sector experience in the light of common organisational characteristics, if the desire to improve the quality of NHS care is sustained. In particular we will compare the development of organisation-wide total quality management (TQM) approaches, with the tradition in the NHS of more piecemeal attention to 'quality assurance' (QA). It is interesting to note that several of the popular TQM models advocated by consultants take the form of rational, multi-step processes very similar to the hard systems approach we met in Chapters 2 and 4.

In Chapter 5 we placed a rather artificial boundary around QA as it had appeared in 1985/6 annual review meetings. We noted that while it was mentioned fairly frequently (and clearly many of the other performance related topics, such as waiting times, also reflect quality of service), at that time the attention it received was more 'for information' than 'for action'. The evolution of explicit central requirements for quality initiatives, and gathering of momentum at local level, will be described at Step 2.

As well as considering the scope for action to improve the quality of NHS care - from public relations/ customer satisfaction activities, to standards of clinical care - we will note the breadth of concern at different organisational levels. Earlier we distinguished between total quality management and quality assurance. There is a presumption when TQM is implemented, that 'quality is everybody's business'. QA, at least as it has been adopted in the NHS, has commonly been made the responsibility of selected groups - most notably, nurses. It will be suggested that this piecemeal approach has constrained the impact on quality of service as experienced by patients, and neglected the needs of 'internal customers'. The greater potential benefits of organisation-wide action will be explored through the modelling in this chapter.

The 'organisation' of interest may be a small part of a hospital, or a whole district - perhaps 'system-wide' will be a more appropriate title for this context. Roles and expectations for quality-improvement activities will vary with location in the NHS hierarchy, but we will find some common features too. Thus a model which can provide a 'blueprint' or checklist - rather as the Formal System Model does in the soft systems approach - may be of value. The many available definitions of 'quality' and dimensions for its assessment remind us of the wide scope for enquiry, demanding that attention be given to structures, processes and outcomes of NHS care to gain a full understanding. Here, however, we will concentrate

mainly on structure, as many of the early NHS QA initiatives seem to have foundered at the stage of developing organisational roles, communication processes and the like. A model which is well suited to applications at many interconnected organisational levels, with a focus on the structural conditions which make desired processes and outcomes possible, is Beer's viable system model (VSM). (Beer, 1979, 1981, 1984, 1985).

Secondary to the use of the VSM to design viable and effective structures within which quality of care can be given full attention, is its potential application as a means of comparing performance between parts of the NHS or within the same part of it over time. There is a relative absence of performance indicators for quality of clinical care and service delivery, although the inclusion of some checklists in the DHSS PIs attempted to meet this need. In earlier chapters we have emphasised the importance to performance, of closed loop control and monitoring, suggesting that only in extreme circumstances is it desirable to monitor inputs with the hope or expectation that they will be an adequate indicator of expected outputs and outcomes. Yates (1986) made a strong case for using routinely collected data on inputs as an accessible warning bell for poor quality long-stay care, as we noted in Chapters 1 and 2. On other occasions where quality is the main concern, an open loop will be necessary: the 'right first time' ethos of TQM sounds eminently suitable for clinical procedures. However, achieving high quality without waiting to receive feedback presumes a more full understanding of causal relationships or correlations than is currently available for many NHS processes.

Here we will assume that although it is not a sufficient condition for effective quality management in health care, getting the structural inputs 'right' is a necessary factor. Our principal interest is in organisational structure, rather than bricks and mortar. So perhaps seeing how different health authorities, hospitals or departments compare against the ideal type structure of the VSM may be one indicator of their performance in quality terms. Thus we will proceed to analyse Topic 3 using Beer's viable system model. The main effort will be devoted to diagnosing (describing and analysing) 'the state of quality in the NHS', or at least parts of it, and designing appropriate changes, mostly structural. We will test the design by comparing it in detail with an organisation-wide approach to quality in the NHS, but Step 6, where the implementation of feasible and acceptable changes is explored, will be less detailed. Knowing that implementing either narrower QA or broader TQM involves changes and challenges to the culture and power relations in organisations, we may identify a role for softer or more critical approaches too; this will be considered in Steps 2 and 9.

The process and outcome dimensions of performance are only temporarily neglected, being addressed through the other topics. Some recent developments of the VSM, particularly aimed at increasing its power to reflect a range of stakeholder viewpoints and not just those of the dominant groups, will be considered (see Espejo 1980, 1987, with Harnden 1989). The efforts for sustained improvements in the quality of NHS care have begun to have direct impacts on patients and indirect ones on the quality of working life for staff, which will

continue to be relevant after the 1989 White Paper is implemented. Our focus will be positive - on quality improvement as opportunities to be realised rather than problems to be solved.

Feedback check on Step 1.

Having posed the questions listed in 2.6.2 as a preliminary check that the suggested application of the VSM is suited to the purpose of this research, we can sum up what Chapter 6 aims to do, and how, as follows:

- the purpose of the modelling application here is to use Beer's VSM to diagnose problems in existing approaches to quality improvement in the NHS and, assuming that a 'total quality management' approach is desirable, to design a recursive structure for health service TQM; and to assess its likely acceptability in one or more health service contexts.

- as with the application of the control loop in Chapter 5, within the ten-step analytical process we are using the VSM as a template for rearranging NHS parts. We have devised our own way of building up a description of the system of interest, and exploring implementation. This differs from the analysis of Topics 1 and 4 in Chapters 4 and 7, where models have been considered within a comprehensive methodology.

- turning to the model itself, while the power of the VSM to enhance an organisation's capacity for change has been disputed, it has been designed to cope with flexibility and uncertainty. As the viability of the quality management system will partly come through its capacity to respond to environmental changes requiring a new stable state, the VSM's cybernetic strengths in stability-maintenance are probably an asset rather than a conservative liability. Reflection on process within the viable system is primarily a 'System 5' function, being carried fairly far down the organisation through the model's recursive property.

6.2.2 Step 2 - How does the NHS assess quality? A recent history of quality assurance in the NHS.

The road to quality in the NHS is paved with good intentions. There have always been efforts, within clinical and non-clinical areas alike, to set and attain standards for the quality of care. Some have been referred to in earlier chapters, or will be in subsequent ones. For example, the Royal Colleges of medicine, nursing and midwifery have long played a role in approving hospitals and health authorities as suitable for training purposes; laboratory and other clinical support services have strict standards, inspection and peer review; and

Community Health Councils, the Health Advisory Service and National Audit Office are a few of the bodies whose role is concerned with quality of service, at least in part. However, as we noted in Chapter 1, the Griffiths report provided a new impetus. It called upon the NHS management board and health authority chairmen to:

> (para. 13) ... ascertain how well the service is being delivered at local level by obtaining the experience and perceptions of patients and the community: these can be derived from CHCs and by other methods, including market research and from the experience of general practice and the community health services;
>
> respond directly to this information;
>
> act on it in formulating policy;
>
> monitor performance against it;
>
> promote realistic public and professional perceptions of what the NHS can and should provide as the best possible service within the resources available. (DHSS 1983. p.9)

Implementing the Griffiths recommendations from 1984 onwards, regional and district health authorities in England first had to appoint general managers and introduce new senior management structures. At each level the roles of professional managers - nurses in particular - were significantly changed, and many district nursing officer posts were to all intents and purposes abolished. Perhaps partly as a result of the employment of commercial sector management consultants by many authorities to assist in the development of new structures and recruitment and selection, some post-Griffiths management boards included a customer satisfaction/ public relations/ quality assurance position. Many placed this mantle of responsibility around the shoulders of their former chief nurse.

In 1986 one of the questionnaire surveys described in Chapter 2 asked an officer at each regional headquarters for information about the role of quality assurance in their region: in the annual review process - as they reviewed districts, and were themselves reviewed by the DHSS; in the planning process; and in terms of the development of a regional policy. The content of the 11 replies (from 14 regions) is summarised in Table 6.1 below.

Table 6.1 The role of quality in the regional annual review and planning systems, 1986.

REGION	Draft/ policy on QA (a)	Quality issues in Reg. Review	Quality issues in Dist. Review	Quality issues in Planning process
York-shire	Y	Y	Y	Y
Trent	Y	Y	Y	Y
East Anglian	Y	Y	Y	Y
North West Thames	Y	N (b)	Y	Y
North East Thames	N	Y	Y	Y
South East Thames	Y	N (b)	N	N
South West Thames	Y	Y	Y	Y
Wessex	Y	Y	Y	Y
Oxford	Y	N	Y	Y
Mersey	N	Y	Y	Y
North Western	Y	Y	Y	Y

Source: Survey of the regional role in quality assurance, August 1986.

Notes:

(a) Most policies at draft stage only, few copies sent

(b) 1985 Regional Review Action Plan sent; 1986 Review pending

Although many of the technical aspects of QA have drawn on models from overseas - most notably the USA, but also Canada and Europe - their implementation has had an English flavour and typical NHS pace. (Shaw, 1987, contrasts England and Wales with the Scottish experience, where QA had been less institutionalised). The World Health Organization Regional office for Europe (for example, Vuori 1982 op cit., WHO 1983, WHO 1985b) has sought to develop strategies for the establishment of comprehensive systems for quality assurance in the health care systems of member states. The target of their work has been medical professionals at least as much as administrators and policy makers, and has included the identification of a model for QA which professional training programmes should incorporate. However, although Britain is party to the agreement that 'by 1990 all member states should have built effective mechanisms for ensuring quality of patient care within their health care system' (WHO 1985a, target 31) it is difficult to discern any strong influence of the WHO model here. Although the model is aimed to be comprehensively applicable at any level, it could have had maximum effect if adopted nationally.

Over the next few pages we will sketch a picture of quality assurance developments since 1985 with examples of the sorts of studies and activities which have been taking place within the DHSS, regions, districts and research organisations. Most of the health authority examples I have chosen have been given publicity, involve authorities which are in the forefront of NHS QA developments, and are achieving their objectives. The list also includes some of the larger research projects, but can only indicate aspects of the scope of QA and customer relations, not their prevalence. QA has tended to be adopted strongly in some places and not at all in others, so these examples are not representative of the level of activity in most districts and regions, and TQM has received limited attention to date. Until recently, the Department of Health and NHS management board/ executive took a deliberately laissez faire stance. For example, in an interview in 1987 with a civil servant responsible for quality of service initiatives, the Department's position was described as: clarifying what 'quality of service initiatives' means, demonstrating (through expressions of interest) the importance with which quality is regarded but giving regions a free hand provided that they are seen to be tackling quality, and possibly disseminating good practice information. 'We are not planning a national quality assurance system. Delivering an ultimatum to doctors is a long way off'.

In later sections a picture of the activities in one enthusiastic district is presented.

Examples of NHS quality initiatives, 1985.

- North West Thames (NWT) sets up project with six districts to test and evaluate three approaches for managing customer relations (following 'critical incident technique' survey): reviewing and improving organisational systems and staff training, using quality circles, employing an external change-management consultant. (Callaghan and Caple, 1986)

- the foreword to the proceedings of a study day for senior nurse managers on 'Quality assurance: what it is and what it is not' (Astbury and Hazell, 1985) opens: "Quality assurance in the NHS is becoming a 'buzz' word. The flurry of activity in the form of articles, national conferences and subtle approaches from consultancy 'experts' looks likely to create a new industry. Our attention could easily be diverted away from the practical application of quality assurance structures and systems to philosophical concepts and endless statements of good intentions".

- Trent launches its 'Personal service initiative', urging districts to strive towards providing 'the type of care and concern that are ... "desirable for one's own mother."' (Fox, 1988)

- Brighton health authority is making steady progress in implementing its QA strategy, with a strong clinical component and effective use of computers (see Bowden et al, 1986).

- a major Kings Fund project 'The assessment and promotion of quality in care', established late in 1984, sets some parameters for quality by defining it as: 'a combination of criteria of service including effectiveness, acceptability (to consumers and providers), equity (of access and distribution) and economy. This generally excludes efficacy, clinical trials and resource inputs unless they are directly related to improving the process and outcome of the service.'

Examples of NHS quality initiatives, 1986

- DHSS discussions with RGMs to identify areas of service for priority attention make a slow start, and the department's intention of leaving clinical and nursing standards to the professions is reported to have had a mixed reception.

- Mersey region produces 'Person to person' training package for customer relations (which is to become widely used in other authorities).

- North Warwickshire DHA reports on its successful application of industrial QA models for setting standards and measuring inputs, process and outputs. (Hyde, 1986).

• King's Fund QA project publishes a report of the activity of the national medical, paramedical and nursing professional bodies which come under the QA umbrella, which concludes that there is much uncoordinated activity which, while not comprehensive, could usefully be publicised so the ideas can be shared and built on collectively. (Shaw, 1986 a)

• a literature review nearly one inch thick on consumer feedback for the NHS since the mid 1970s is published by Edinburgh university researchers (Leneman et al, 1986).

Examples of NHS quality initiatives, 1987.

• a King's Fund QA project survey of regional activity finds a diversity of managerial approach which allows room for intiative and invention, but also conceals a lack of clarity on questions such as 'what is expected from quality assurance?', 'whose job is it?' and 'how does that link with clinicians and managers?' (Shaw, 1987).

• the Health Advisory Service urges districts to extend their QA activities to community services for the elderly and mentally ill. (Horrocks, 1987)

• the NHS training authority urges HAs to adopt patient-centred organisational development - not just a passing fancy, but 'a new strategic dimension'. (Dearden, 1987).

• RIPA one-day seminar on total quality management in health is cancelled due to lack of interest.

Examples of NHS quality initiatives, 1988.

• in March, a nursing officer at the Department of Health says it is still not clear what ministers are looking for if quality is discussed in annual review meetings; there is no formal guidance from the Department. But this position is changing ... (interview notes).

• the August edition of the NHS Management Bulletin, (for senior NHS managers), was devoted to quality initiatives, to stimulate action and warn HAs that the NHS management board will be monitoring this closely.

• a research project commissioned by the DHSS at York University finds that, of 14 regions: 13 had written policy papers on QA or customer relations (CR); only five had QA strategy documents and one had a CR policy; all had a designated person responsible for QA; and three - Wessex, Mersey and Trent - have given their activities and approaches wide publicity. Their findings bear out the views of, for example, McNiven (in a presentation in behalf of PA Consulting Group on TQM, London, 14 November 1989) that commitment from the top, and a facilitating role for QA staff, were essential. (Carr-Hill and McIver, 1989).

• for districts, York CHE found a mixed picture, with around half DHAs having written QA papers of varying detail and comprehensiveness. Some districts had strong views on effective organisational structures for QA/CR activity (Carr-Hill and McIver, ibid.).

• a group providing QA training at unit level find that in some districts 'senior managers are still struggling to produce a coherent and detailed district strategy', leaving UGMs and heads of services to take their own initiatives, so as to be seen at least to be doing 'something about quality'. Morgan et al (1988) report on the training programme they use to provide support for unit managers faced with the practical and attitudinal challenges of QA.

• CASPE reports on its cheap, computerised approach to obtaining information about patients' satisfaction (Kerruish et al, 1988); others with an element of vested interest criticise it (Carr-Hill et al, 1989) and CASPE defends its value as part of a broader approach to patient satisfaction (Wickings et al, 1989).

<u>Examples of NHS quality initiatives, 1989.</u>

• the NHS White Paper 'Working for Patients' announces that all authorities are required to introduce medical audit, and quality will be part of the specifications for contracts for the internal market. The DoH initiative to reduce waiting lists continues - but in March lists were at their longest for six years.

• finally the Department takes an explicit stand and announces in circular EL(89)/MB/117 (DHSS 1989c) to RGMs, DGMs and chairmen) that the NHS Management Executive will be using the 1989 annual review management meetings to see 'how far health authorities are taking a forward-looking and systematic approach to quality of service and customer relations, and how far regions and districts can be confident that their quality statements are being translated into tangible benefits on the ground'. Each DHA is asked to ensure that its units develop comprehensive quality review programmes which will monitor the outcome of all services '...and ensure that quality is the best possible within

available resources. ... The programmes should include provision for the preparation of some basic criteria or standards, against which to assess quality of service and measure progress, with the opportunity for further development ... The eventual aim will be to put in place comprehensive quality assurance systems.' (DoH 1989c). 'Front of the house' aspects and customer satisfaction surveys are to be given priority; and the DoH is introducing central initiatives including pilot schemes for total quality management.

- the King's Fund work on exploring hospital accreditation for the UK is reported (Brooks, 1989). Already it seems out of date, referring to good quality service involving 'conformity to specified requirements', following the DTI's quality campaign; meanwhile the trend in the 'search for excellence' outside the NHS has shifted towards meeting customers' needs.

- in an article starting thus: 'Mention quality assurance and most people will politely try to change the subject', Barnet HA's successful use of Wilson's organisation-wide model (see Section 6.4.3, c.) is reported in the Health Service Journal (10 August, p.987).

- Launching the 1989 Sunday Times Best of Health contest for the best hospital in terms of its achievements in quality and service to patients, the NHS chief executive Duncan Nichol says 'Lots of hospitals are now paying more attention to the quality of care. Good quality may not always save money, but bad quality always costs money. Quality is all about getting it right first time. This must make sense in terms of cost-effectiveness and clinical outcomes.' (Sunday Times, 30 July, p. F1).

So here we have it - the NHS and quality assurance can be spoken of in the same breath; and in some cases the NHS chief executive could equally well have been speaking about Hewlett Packard, Marks and Spencer or any of PA Consulting Group's many other TQM customers. But the picture cannot be regarded as a total success story, or there would be no need for the requirements in circular EL(89)/MB/117, no waiting lists, no scandals of discharged mental illness hospital patients wandering the streets without homes. That a government which is well known for its opposition to pilot schemes for NHS changes has agreed to them for the latest quality initiatives, could suggest a recognition of their complexity, as well as their relatively low political sensitivity. The picture I have tried to paint is one of growing confidence at each NHS level that better quality services can be achieved, and a wide range of approaches to their attainment. However, as Carr-Hill found, quality activity was still almost absent in many districts and limited in some regions. The aim of this chapter is to look at the structural elements of one or more comprehensive quality 'models' (this word is often used by health service staff in the QA context) which are

working successfully - or need relatively little change - and could fairly confidently be tried in other regions, districts or units.

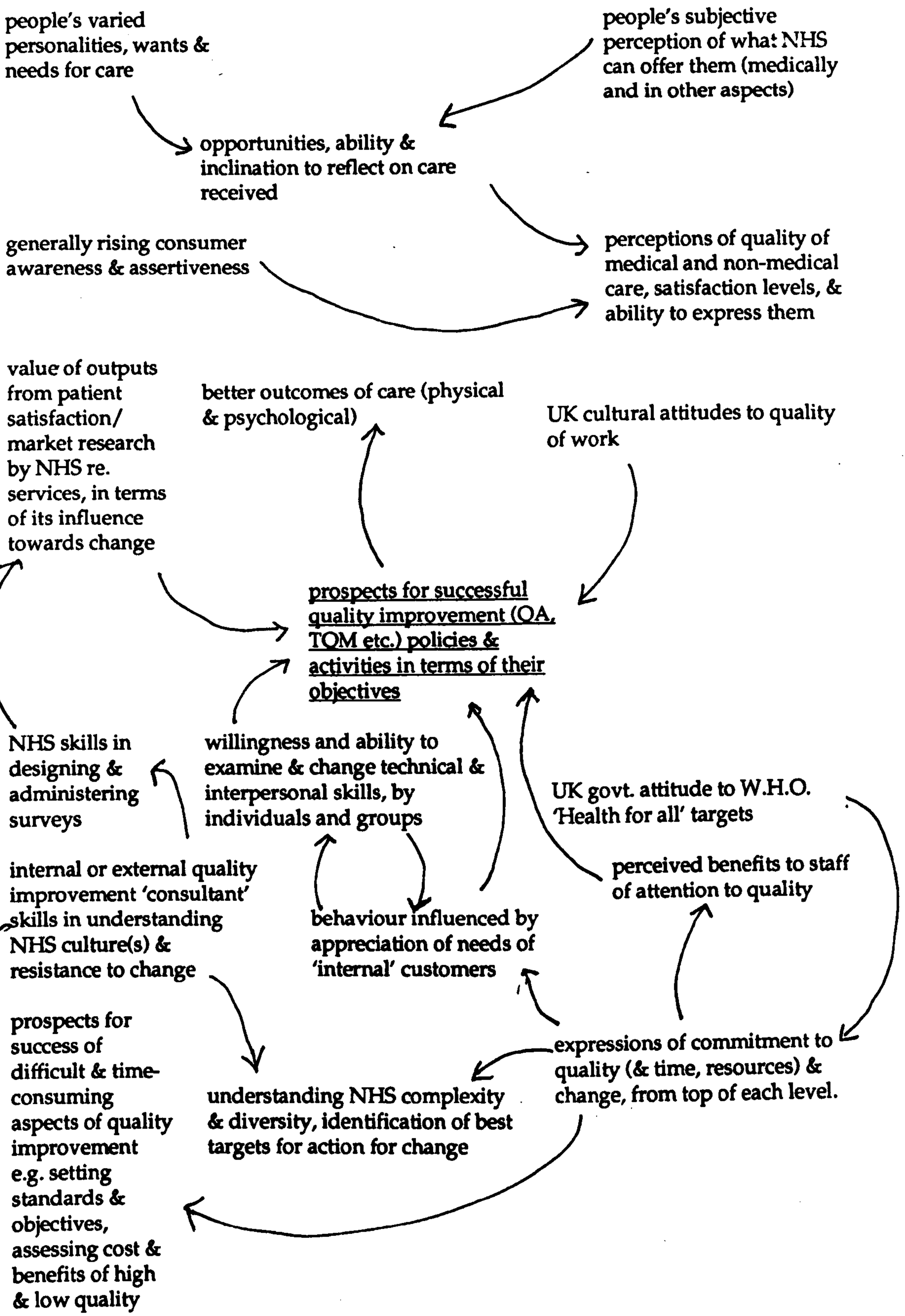
Although progress to date has inevitably involved small pockets of activity, as interested groups develop tools for QA within their local work environment or profession, significant change must depend on a far wider distribution of concern about the 'quality of service provided to customers', in the broadest sense of these terms. With the imposition of medical audit, and increasing willingness of clinical and clinically-related professions to join nurses in seeking better understanding of quality and standards, the barriers between such groups are slowly coming down albeit involuntarily in some cases. Quality circles and other non-hierarchical working groups or task forces are also achieving some genuine changes both in quality of service to customers and job-satisfaction to staff.

The model to be developed here will be system-wide, combining this potential for change with the complexity and interconnectedness of health services. Like industrial total quality management models, the 'system' may be a work group, department, hospital, unit, district or region. A successful quality policy has visible commitment from the top down (accompanied by resources), but each part of the whole organisation is to some extent autonomous in its application of the policy. The interdependencies of internal customer-provider relations make the general adoption of the policy important, but just because other departments (or, in the NHS, certain groups of staff) may be less committed, this should not destroy the total attempt at quality management.

Drawing on the few available NHS examples and some non-health service ones, we will describe a basic TQM model. We will then seek to test its potential for wider application, and here will explore its structural properties in particular. Much of the 'classic' work on health care quality - Donabedian (1980), McLachlan (1976), Vuori (1982), Holland (1983) for example - is theoretical, and/ or concerned with definitions and their significance particularly in clinical practice and outcomes. Many of the shorter, practical references concern nursing practice and process. There are as yet relatively few references to more general managerial practice and organisational structures in the context of quality improvement in the NHS and non-acute services tend to be particularly under-represented. As process and outcome are at the heart of the concerns of Topics 2 and 4 respectively, we will confine ourselves to structure here as indicated at the beginning of the chapter.

We will use Beer's viable system model as a guide to the desirable and necessary characteristics of such a structure, and the factors contributing to the choice of this model are noted in the next subsection. To complete this one, Figure 6.1 draws on the sorts of activities included in the list above. It sums up some of the interconnected factors which have been found to be influential in enabling the NHS to satisfy its 'customers' - patients, their families and friends, suppliers, internal customers at each NHS level.

Figure 6.1 Factors influencing levels of patient satisfaction and effectiveness of quality improvement activities.



6.2.3 Confirmation of model choice.

In Chapter 2, Beer's Viable System Model was described and some of its strengths and weaknesses noted. The diagram and description below are a reminder of the basic functions of the five systems, some aspects of which will be considered in more detail in later steps of this analytical application.

The model represents five essential components or subsystems which, according to Beer, any system requires for viability - survival within its environment. Without subsystems to perform these functions, interconnected with each other and the environment appropriately, an organisation will (rapidly or gradually) fail to maintain itself. The subsystems contained within the model depicted in Figure 6.2 represent:

- System 1 - the operational subsystem, comprising management and (interdependent) departments which carry out the organisation's core activities, with everyday links to the local environment

- System 2 - the co-ordinating, anti-oscillatory communication links between operational management and higher level systems

- System 3 - the regulatory, command and control system linking operational management (indirectly) with the top policy-making level (augmented by System 3* , which conducts sporadic audits of the operational elements)

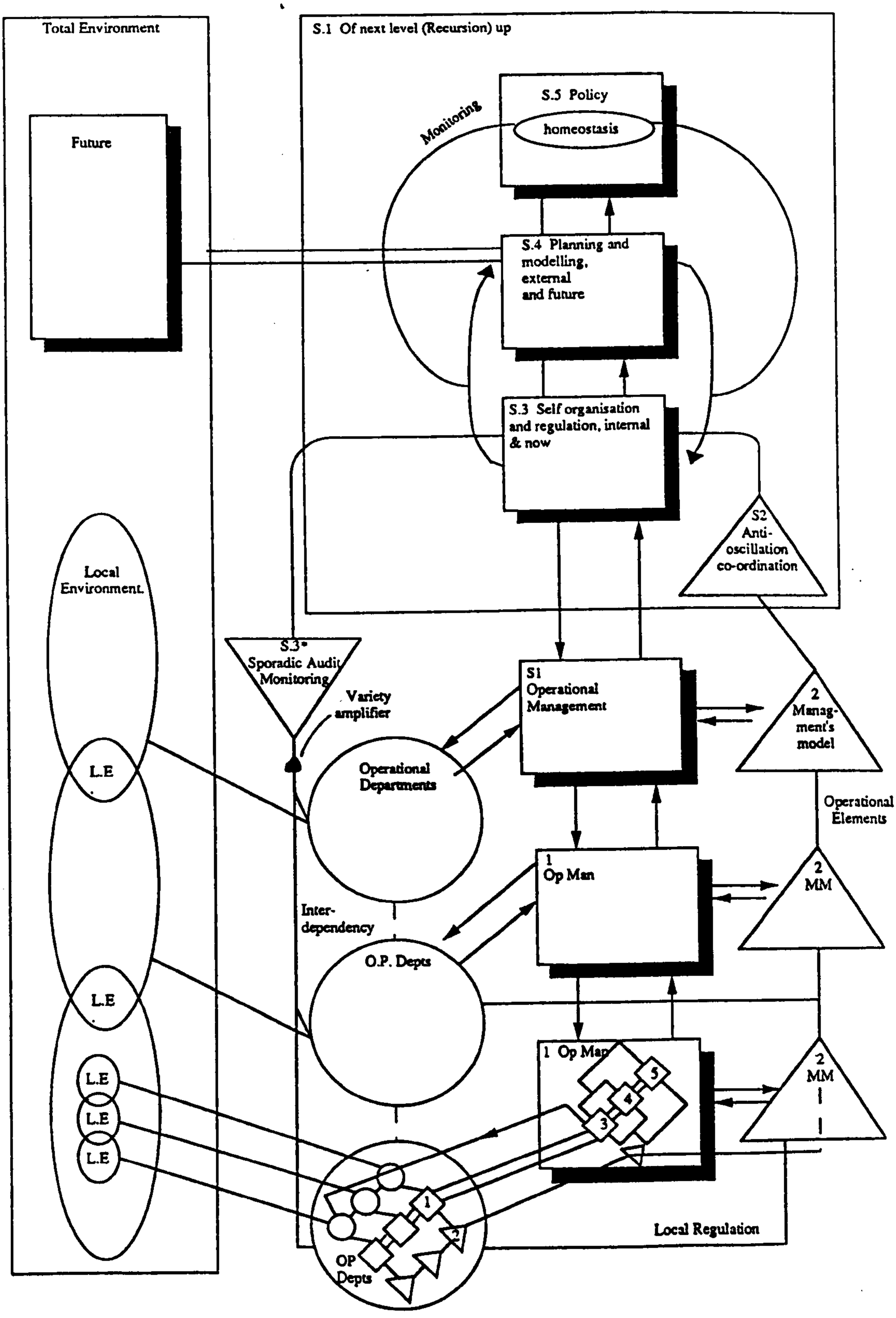
- System 4 - the planning system which monitors the wider environment and undertakes modelling for the future, and through which Systems 3 and 5 are linked indirectly

- System 5 - the policy-making system.

A key feature of the VSM is its recursive quality - that is, a representation of the five levels as shown here is part of a hierarchy, which is replicated at higher and lower organisational levels and which overlap to a certain extent as Systems 3, 4 and 5 form System 1 of the next level up.

In spite of its jargon and stylised diagrams, it is easy to imagine how an organisation would fail to thrive without the components and links of the VSM, and later in this chapter we will use it as a simple diagnostic and design tool.

Figure 6.2 The simplified Viable System Model (repeated from Figure 2.7).



Three important areas of concern in quality improvement in the NHS can be distinguished - the multiplicity of stakeholder viewpoints, and hence wide range of perceived objectives; practical difficulties of quality measurement; and interconnectedness of factors impinging on quality (as illustrated in the multiple cause diagram at Figure 6.1). These readily suggest a holistic, systems approach, and the following factors strengthened the case for the VSM:

- These are relatively messy problem areas reflecting in part differences in values, for which a modelling approach which draws out viewpoints and makes issues visible (as the VSM may) is advantageous. (Espejo 1987, Thomas, 1980.)

- The VSM is easy to use as a diagnostic tool, to generate debate on problematic aspects of organisational structure (which may be easier to resolve than problems reflecting processes). Espejo (1989) distinguishes between the use of the VSM in Mode I which 'relates to existing organizations and is <u>diagnostic</u> in character. Its outcome is, in general, structural adjustments aimed at improving control and communications processes in the organization'; and Mode II, for new organizations or ones undergoing a change in identity, where the outcome is 'a <u>prescriptive definition</u> of the control and communication processes likely to support an effective implementation of the organization's agreed missions. Thus, the aim is organizational <u>design</u>.' (p. 363, emphasis in original). Here we are attempting to operate in Mode II, but may if necessary revert to Mode I.

- The scoring system for model choice gave the VSM:Topic 3 combination 3-4. Consideration of the soft systems methodology and Organisational Development suggested these too could be helpful approaches. But as many of the practical difficulties being experienced in health authorities reflect the search for new structural arrangements, the VSM will be retained for its strengths in diagnosing structural problems and designing changes. However, their possible roles in the implementation of quality management programmes will be considered in Steps 9 and 10 in the final chapter.

<u>Step 2 feedback check - is it a good model?</u>

As with the other topic:model combinations, the responses to the 12 questions posed in order to identify any significant weaknesses in the model or in its relation to the context or analyst are set out in Table 1, Appendix to Chapter 8. They did not reveal any serious problems provided that we are content to use the model in a simple way, concentrating on structures of limited detail and not attempting mathematical modelling. Avoidance of the use of jargon was found to be helpful in discussions with people who had no systems background.

6.3 TOWARDS A VIABLE SYSTEM FOR TOTAL QUALITY MANAGEMENT - STEPS 3 AND 4

6.3.1 How 'viable' is TQM?

Introduction to Steps 3 and 4

At this point we depart from the order set out in the 10-step analytical process. The building of our viable system model of total quality management upon which to design a system for the NHS requires several stages. The output from Step 2 was only an intermediate 'model' based on the topic as summed up in the multiple cause diagram (Figure 6.1) and the standard VSM (Figure 6.2). We want to base our design at Step 5, on a sound model which has been verified and is valid - an adequate representation for our purpose. Our purpose is, simply, to develop a 'blueprint' of the structural components of viable total quality management incorporating its desirable and necessary features. We can then use this to build TQM systems in the NHS (in this case, describing a desirable generalised model and examining some relatively comprehensive NHS systems to suggest improvements). So here we need to develop the TQM blueprint which will be subject to verification and validation, rather than applying such checks to the description of some of the components of QA activity in the NHS and their causal links. At Step 5, in the next section, a generalised structure for total quality management in the NHS - applicable at regional, district, unit or sub-unit level - is described in terms of the VSM.

What is TQM?

The extension of concerns about quality of products and services from the quality control department and public relations office of advanced manufacturers, to all functions in potentially any organisation, marks the evolution of the philosophy and practice of TQM. Its histories in Japan, the USA and the UK reflect differing cultural and economic contexts. Here we will simply note some common features of several TQM models which have been developed by 'gurus' and applied and advocated by a growing number of UK organisations, including health authorities and other service industries as well as the UK divisions of US or Japanese corporations. The models described or prescribed by Deming (1986), Juran (1980), Crosby (1979)and Kijima (1987) share many of the following characteristics:

1. definitions of quality of goods or services include the focus in their design and production, of complete fitness for the customer's requirements (and readiness to respond to changes in those requirements);

2. everybody has customers, although they may be internal to the organisation rather than end-users;

3. quality is everybody's business, not just the responsibility of experts in the quality assurance department (if there is one) who should act as facilitators;

4. quality may not be free but the net financial benefits of investment in quality can be quantified, and although the emphasis on cost of quality may vary it is one potential measure of performance;

5. the cost of quality has three main components - failure, appraisal and prevention - and as TQM is implemented the overall cost (as a percentage of total operating cost) will decrease, and the cost of prevention will become relatively higher in comparison with failure and appraisal;

6. with the philosophy of 'prevention rather than detection' comes the standard of 'getting it right first time';

7. instead of an 'acceptable level of quality' which allows for a percentage of faults or failures, a goal of zero defects may be set, for attainment over the longer or shorter term;

8. the search for quality improvement is continuous, and quality standards are not set once and for all;

9. good quality requires good and plentiful information;

10. commitment of top management to continuous quality improvement is essential, and requires to be accompanied by considerable resources - in terms of time, communication and information systems, equipment and especially training;

11. organisational, group and professional cultures need to be able to generate, accept and act on constructive criticism;

12. the attainment of quality standards and awareness depends on giving everyone pride in their work and the resources to respond fully to customer requirements.

So these are the sorts of components which we will aim to incorporate in an organisation-wide quality management model for use in NHS contexts. Next we need to turn them from a list of characteristics, many related to structure, into a viable system! This will enable us to check not only that the important features of TQM are present, but that they are arranged in such a way as to be a viable system - having a capacity to plan, to monitor the environment, to exercise control and permit autonomy.

Building the viable system for TQM

In order to organise the implied structural characteristics of such a model before arranging them in the form of the VSM (which demands a relatively complete picture), the early stages of Checkland's SSM (described in Chapter 2 and in more detail in Chapter 7) were undertaken. Collecting the sorts of data presented in Step 2 in a relatively unstructured way can be followed by the construction of a root definition of one or more relevant systems. Espejo (1989) describes the identification of significant alternative viewpoints on the system of interest through the generation of several root definitions of relevant systems. Holloway (1988a) produced a root definition and associated conceptual model for the implementation and maintenance of a district health authority-wide QA system, as if on behalf of a manager in charge of QA. The nature of such an 'ideal type' conceptual model enables its adaptation to other organisational levels or viewpoints. Thus we arrive at an 'ideal type' model as a structured entry-point to drawing a VSM. Although Beer (1985) sets out a relatively brief exposition of how the VSM can be used as a diagnostic tool by managers, others like myself have found the SSM a complementary or more accessible route; see for example Gomez (1982), Jackson and Ho (1987), and Aldridge (1989).

The final part of Step 4 therefore is to map the 'ideal type' characteristics of a total quality management system onto the structure of the VSM. Figure 6.3 provides a simplified version of such a model, which will be compared at Step 5 with examples from practice in the NHS to assess and improve their prospects as viable systems. The 12 numbered features of TQM (listed above) are shown on Figure 6.3, most in more than one location in the VSM. First a few examples of the interpretation of this diagram are given:

Feature of TQM	Location in a viable system (plus additional explanation)
3. quality is everybody's business, not just the responsibility of experts in the quality assurance department (if there is one) who should act as facilitators:	- should pervade the model, with System 3 and 3* monitoring and sending 'commands' if necessary e.g. setting or conveying standards if System 5 or 4 requires it in relation to current or changing policy or environment; otherwise standards may be set in System 1.

4. quality may not be free but the net financial benefits of investment in quality can be quantified, and although the emphasis on cost of quality may vary it is one potential measure of performance:

- Beer (1979, pp.292-9) steers managers away from reliance on financial performance measures, and defines three general sorts of measures: 'productivity' (the ratio of actual achievements - sales, items produced or whatever - to capability or planned achievements); 'latency' (the ratio of capability to potentiality - the achievement levels which the performing organisational unit wishes it could attain); and 'performance' per se (the ratio of actuality to potentiality, i.e. actual productivity to 'ideal' level of achievement). Each of these can be relevant if 'cost of quality' as described below is used as a performance indicator.

5. the cost of quality has three main components - failure, appraisal and prevention - and as TQM is implemented the overall cost (as a percentage of total operating cost) will decrease, and the cost of prevention will become relatively higher in comparison with failure and appraisal:

- as well as Systems 1 receiving information about failure from external customers and System 3* monitoring all three components in terms of 'productivity', System 3 may convey 'performance' requirements to operational levels and receive assessments of the their 'latency' in terms of quality cost components. System 2 has role here conveying management information between System 3 and Systems 1.

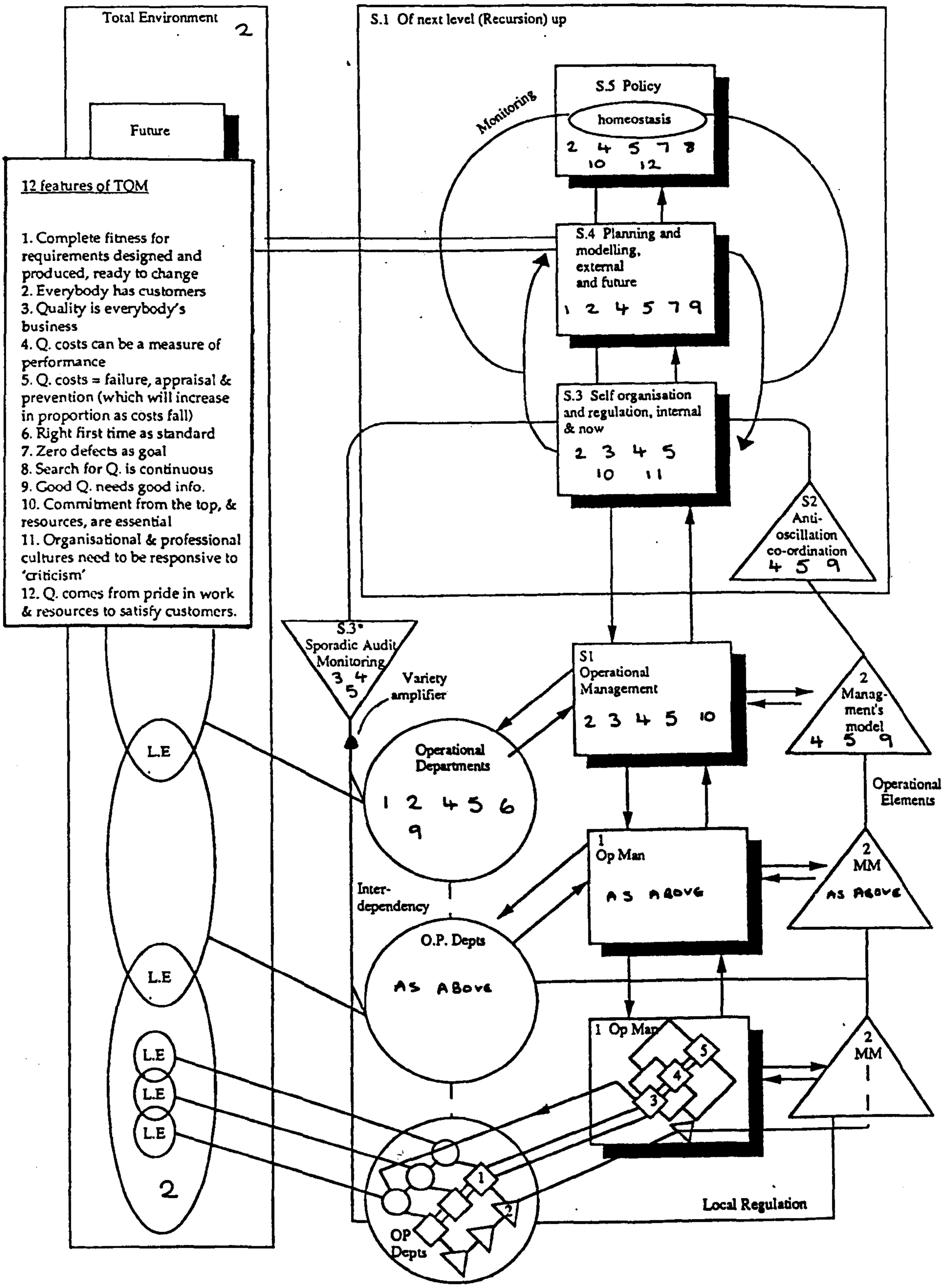
8. the search for quality improvement is continuous, and quality standards are not set once and for all:

- this is a philosophical stance which does not necessarily come naturally to UK organisations; it therefore depends particularly on the commitment of System 5 and the skills of those parts of the organisation which influence its culture, to foster an environment where the search for improvement is generally constructive, about learning, and rewarded appropriately. (Beer has some comments about the simplistic assumptions underlying many incentive schemes; and in this and many other areas Deming's 'management philosophy' runs close to prescribing principles for viability - see Neave, 1988).

10. commitment of top management to continuous quality improvement is essential, and requires to be accompanied by considerable resources - in terms of time, communication and information systems, equipment and especially training:

- Systems 5, 3 and the operational management of Systems 1 have the major parts to play here.

Figure 6.3 A viable system for Total Quality Management.



6.3.2 Verification of the model

This somewhat barren mapping onto the VSM of the key components of total quality management systems in general, marks the end of Step 4. After checking that this model will provide a suitable blueprint with which to compare and develop more specific models for the NHS, noting some common failures in quality management which the health service shares with other organisations, and checking the validity of the 'VSM-as-applied-to-quality-management', we will return in Step 5 to designing improvements for the NHS.

Verification may identify some points to incorporate in the model as applied in Step 5, and the answers to the standard verification questions are set out in Table 2 in the Appendix to Chapter 8. The model as so far constructed, can be verified, but it does have limitations: the simplicity of the model application; the uncertainty about how the model would respond to sudden, major change; and the weakness of the VSM to deal with conflicts, which we noted at the outset. The significance of these strengths and weaknesses will be assessed at a later stage.

6.3.3 Feedback check on Step 4

As with the other applications of topics to models, we can distinguish here between the nature of the performance evaluation 'failure' currently of interest, and possible systemic reasons for them. These two strands are firmed up by finding what we may term 'corroborative evidence' for the former, and applying some simple validity tests to the latter.

Nature of failings in efforts to address issues of quality improvement in the NHS; and some corroborative evidence

Here, as with the description in Step 2, we are only indirectly concerned with poor quality of care. We assume that there is room for improvements, and that even if some of today's obvious problems like waiting lists were resolved there would always be room for continuous improvement in NHS care - which, like its patients' needs, is always changing. We noted a range of examples which illustrated some of the setbacks as well as successes of quality improvement activity, but often with a narrower quality assurance focus, rather than the holistic TQM approach.

At a recent seminar on TQM organised by the Operational Research Society (London, 14.11.89), Sandy McNiven from PA Consulting Group (op cit.) concluded his presentation on PA's approach to TQM with a list of key principles of TQM (most of which are represented in our 12 points, above). Of the many examples derived from his experience, virtually all have also been observed or reported as relevant issues in the NHS (and many are present in the multiple-cause diagram Figure 6.1). Thus they corroborate our findings; some of the more important parallels are:

1. TQM has to be management-led, with commitment from the top; experience shows that:

- leadership requires a crusader, not a controller;

- quality management takes more management time than anticipated (20% or more);

- managers often have to undergo a difficult period of personal change, especially middle managers who face an unexpected change from the routes to 'success' which they had traditionally expected to pursue and too little time to make an adjustment percieved as potentially risky;

- senior managers have to demonstrate changed attitudes.

2. The organisation-wide character:

- is complicated to manage in a large organisation;

- is conducive to 'finger pointing' which is difficult to avoid;

- but the concept of internal customers can be a powerful motivator especially for service functions which tend to take longer to adapt to TQM than production ones.

3. The emphasis that everyone is responsible for quality has its own complications:

- most employees don't understand what 'quality' means, let alone TQM;
- when they do understand, they often become very enthusiastic to tackle it;
- the enthusiasm tends to be greatest at the top and bottom of the organisation, with middle management being the most wary, cynical, fearful of lack of support;
- giving people licence to reject poor quality can lead to some 'interesting problems', especially when professionals are involved.

4. The emphasis on prevention rather than detection works most effectively when employees are encouraged to identify for themselves, ways in which processes can go wrong.

5. Getting it 'right first time' may be an alien concept:

- there is a very deeply rooted conviction in most organisations that some errors are inevitable and therefore acceptable;
- the concept needs interpreting as a standard to be aimed for.

6. The idea of a continuous search for improvement does not come naturally. It can be helped by noting:

- that it's small issues which count in continuous improvement;
- eventually people get bored with the drive for quality, and significant efforts are required to keep them motivated - apparently trivial rewards can have desired effects;
- conscious attention to motivation is required until a cultural change makes the continuous search for improvement the normal way of working. In Japan this is no longer an issue, it is the norm; and the new emphasis is on rapid responsiveness to the need for change.

This latter point is probably the most problematic for the NHS - and other UK organisations. Further, the health service cannot wait until continuous improvement has become the norm before turning its attention to rapid responsiveness to the need for change! Nonetheless, if this point illustrates the challenge of TQM, it also suggests that piecemeal approaches have even less chance of fostering significant change. Expecting that once some frontline staff have 'done' quality assurance training then the service which the whole hospital provides will be significantly better, is patently wrong. There are reasons to be cautious about adopting models from the industrial and commercial sectors for the NHS, just as there is a need to be selective about using ideas from health care quality systems abroad. However, general lessons from other areas of growing quality experience can give valuable insights for the NHS, and help it to understand the problems it is facing.

<u>Suggested systemic reasons for problems with quality improvement; and validity check</u>

In Step 5, when we compare the VSM as a structure for total quality management, with observed structural elements in health service examples of organisation-wide approaches to quality, we will explicitly be seeking sources of weaknesses and suggesting potential changes. From the factors indicated on Figure 6.1, we can identify at this stage a number of points which are relevant to systems of the VSM. For example:

- are the operational departments of System 1, which have most contact with patients, well enough equipped (with time, skills, tools) to communicate effectively with patients about their expectations of care?

- is System 4 able to assess and anticipate significant changes in the expectations and potential actions (assertiveness leading to litigiousness, for example) of patients?

- where is the most appropriate location in VSM terms, for those with the responsibility for developing quality awareness and action at local level? System 5, 3 or operational management at Systems 1? Probably all three; although quality is everyone's business, fostering it needs explicit attention and examples of commitment, from those with these roles at each level of recursion.

- what is the role of System 3 in setting standards and targets?

- how is the commitment to action on quality within NHS viable systems, affected by changing and uncertain attitudes in influential parts of the environment e.g. government? How far do these constrain the roles of Systems 4 and 5 and the autonomy of NHS recursive levels?

- how far can the VSM help with the major task of changing personal and organisational culture towards: appreciation of the needs of internal and external customers, acceptance of the need to develop and improve interpersonal as well as technical skills, and the expectation within TQM (especially as it operates in Japan) that 'good enough quality' will never actually be attained?

We will take these points forward into Step 5, after quickly checking that we have a valid enough model, in this case an adequate representation of a structure through which TQM could be introduced to and developed in the NHS. The standard questions have been applied and the outcome presented in the Appendix to Chapter 8, Table 3.

One interesting point to expand upon here relates to the fourth validity test, concerning the model's capacity to reflect natural variability of the problem situation. Might key informal elements, essential to developing organisational culture and fitting the local context, be devalued by the formality of the VSM? As Harnden (1989) points out, models such as the VSM do not exist independently of their historical and human context, and how we interpret them as individuals will reflect our general aproach to models. Some people search for their idea of the real world phenomenon to be directly represented by the model; but we 'neither need to consider the VSM itself, nor the models as they function within the VSM, as reaching out into the world, and somehow capturing it'. (p.402). Thus as we may apply the VSM to inherently diverse NHS organisations, and become aware of the importance of less tangible informal elements for which the VSM may not appear to have a 'label', we need not adopt a reductionist search for 'that bit of System 1 which represents culture', for example. Like the use of the formal system model in soft systems thinking, we look to the VSM to organise the search for certain elements whose absence could usefully prompt investigation.

Thus applying these validity checks reminds us that for the present application at least, we are looking to the VSM for guidance on organisational structure, which will only provide a partial picture of the steps towards TQM in the NHS.

6.4 STEP 5. DESIGNING A TOTAL QUALITY MANAGEMENT MODEL FOR THE NHS

6.4.1 Introduction

As the list in Step 2 of a cross section of quality-related activities from the post-Griffiths NHS suggested, the emphasis to date has been on local initiatives, which the centre has tried to keep in touch with but until recently did little to promulgate. The Department of Health has included TQM among its recently-announced pilot schemes for quality. While it is probably true that there are not yet any NHS examples of TQM which fully meet the 12 points listed at Step 4, in the way that they operate in, say, Hewlett Packard or 3M, the diverse range of quality activities does embrace some potentially comprehensive programmes. A few such examples will be noted here, and then one hospital level case will be compared with the VSM onto which we mapped the 12 TQM characteristics (Figure 6.3).

6.4.2 Examples of relatively comprehensive approaches to quality in the NHS

NAQA

One interesting aspect of the trend towards quality awareness in the NHS - which shows few signs of decreasing - is the sharing of ideas, experiences, successes and failures. There is a strong sense of wanting to share knowledge and experiences in a participative, constructive and voluntary way, as the growth of NAQA (the National Association of quality assurance in health care) testifies. Building on this sort of commitment could be an important ingredient of successful implementation.

That Association's overall objective, set out in its mission statement, is 'to provide a forum for promoting the practice of quality assurance, quality management and quality improvements in health care throughout the United Kingdom. This is to be achieved by offering advice and support, disseminating information and providing a catalyst function across all health care boundaries. In the knowledge of the ever-increasing demand for health care and the limitation of available resources, NAQA aims to bring about an increased awareness for the need to be constantly monitoring and evaluating the quality of health care provision. This is in order to maximise the benefit to patients in respect of the quality of care they receive.' Among its terms of reference are to liaise with interested

organisations at home and abroad, including the Royal Colleges. Its journal and conference proceedings are a reasonable barometer of the NHS quality climate, and its November 1988 and May 1989 included reports on holistic or TQM-oriented developments such as:

- an editorial by a community physician, about the organisational parameters which 'promote and extend the individual worker's ability to influence the quality of work done in a positive way' to:

' - Establish in the individual's mind what constitutes a "quality" performance.

- Promote quality as a high priority in the individual's day to day work.

- Provide the individual with time and a mechanism for reflecting (evaluating) upon the quality of his or her performance.

- Provide the stimulus and resources for the individual to improve performance on the basis of this reflection.'

A highly complex framework is required for the successful achievement of these processes, which makes the links between process measures and outcomes, standards and objectives. How far could total quality management, with the VSM as its framework, meet this need?

- an article on the King's Fund quality programme for psychiatric services, with a section headed 'Quality as systemic: ensuring that outcomes inform inputs'.

- a paper presenting the major principles of holistic medicine and comparing 'wellness' in the individual to quality in an organisation - an explicitly systems approach and one which could usefully be considered from the organisational cybernetic perspective.

- a report on the conference address by the new chairman of Winchester Health Authority, Nick Jonas, until recently director of quality for IBM. He drew parallels between IBM's need to develop TQM and their four-phase method which included major cultural changes, and similar needs in the NHS which he was interested in meeting.

- a description by Margaret Rooney of her research adapting BS5750, the British Standard for quality systems, for the NHS. The systematic approach, which seems particularly suited to the hospital departmental level, employs a double-loop control and learning model (similar to that in Chapter 5) in the attainment of existing standards. This work is undergoing further development.

North West Thames RHA

In 1988 NW Thames introduced a 'total quality assurance' (TQA) model at regional headquarters, based on Mike Robson Associates' approach, adapted to NHS culture. Resources for action, and time for activity, were strained; but the emphasis was on training, identifying priorities systematically. 'With senior management involvement implementation should in theory be feasible' (interview notes) said the QA manager - shortly before her departure from the region. It is not clear what progress is now being made.

Paddington and North Kensington DHA

Two years ago I consulted the King's Fund quality assurance information service to find out where total quality management or organisation-wide QA had been established, and four health authorities were identified, including Wessex (mentioned in the list at Step 2 above). Activities in the two districts which were known to include clinicians in their programmes - Brighton and PNK - are outlined below.

In March 1986, the DGM of Paddington and North Kensington district health authority (PNK) sought the DHA's support for a quality assurance project which would embrace medical and surgical audit, reviews of clinical services, customer relations training, professional standard setting and self-review, and improvements in service by 'front-of-house' staff. A district QA team, to operate as consultants and facilitators and drawing on the skills of community medicine, information, management services, nursing research and training departments, was approved; so too was a programme of work for the first year. Not dissimilar to the IBM phased programme for TQM mentioned above, the proposers of the project believed 'quality is everyone's business', but initial efforts were to be concentrated on: stimulating interest among professionals in self-regulation and review, improving patients' first contacts with the authority's services, and 'fostering through staff education and training an increased awareness among staff at all levels of the organisation of the importance of good "customer relations" and service quality. Seen at its broadest this is a "hearts and minds" exercise to change the district's organisational culture'. The district had to cope with massive cuts in resources, so perhaps not surprisingly the CHC was offered a higher level of involvement in the work of the QA project team than is usually seen.

The project's programme for 1987 was concentrated at unit level, supporting unit staff in activities including quality circles, a customer service project with a seconded manager from Marks and Spencer, improving aspects of working environments and communications with staff, and nursing quality assessment. Each senior manager was required to have at least one annual quality objective, and the QA team were helping medical staff to set up audit systems. By the NHS' standards, the QA project was taking some important steps towards TQM and a set of guiding principles had been established. Ironically, when PNK merged with Brent DHA during 1988, although the new DHA chairman foresaw that eventually quality initiatives would become 'owned' by unit managers and the facilitator would become redundant, the head of the QA project did not transfer to the new district. The notion of the search for continuous quality improvement which should have engaged the project team does not seem to have been present.

Brighton DHA

Brighton DHA is unusual in that its successful quality management programme started in 1984 and has always focused primarily on the quality of care in clinical medicine and multisdiciplinary working. Although not all clinical departments may be participating yet, clinician involvement extends to budgetting and planning. Assisted by a consultant from CASPE research (part of the King's Fund), several computer-assisted trials are being carried out to develop medical and para-medical information systems which will facilitate the review of practice and outcomes. Clinical quality - 'looking at the service from the inside out' - is distinguished from consumer affairs, 'outside looking in', but a multidisciplinary district team meets regularly to promote district-wide policies. Having produced a QA strategy in 1986, team members recommend:

- do develop a strategy
- do aim for commitment of the DHA and general managers
- do realise that QA costs money
- QA is the responsibility of every manager and clinician
  but do appoint a QA manager, as
  advisor and co-ordinator
- do consider the customer, but be realistic about their
  role in making clinical choices
- don't try to enforce QA, allow standards and guidelines
  to develop local ownership
- do proceed slowly. (NHS Management Board, 1988).

On this note, we will turn to a district project which has aimed to 'start small but start real', a hospital-wide QA programme in South Bedfordshire.

6.4.3 'Quality assurance - getting started' in South Bedfordshire

a) The district QA context

The climate in North West Thames region was one of encouragement for quality assurance activities in 1985, when the RHA sponsored six customer relations projects in their districts - one being the development of quality circles in South Bedfordshire. The post-Griffiths management structure at SBHA included the post of Director of quality assurance/ chief nursing adviser on the district management board, (occupied by the former chief nurse), and a QA department at district HQ with two nursing officers and secretarial support. With the DQA's urging, a 'quality assurance protocol' was approved by South Bedfordshire health authority (SBHA) in April 1986, setting out the main roles of the district QA department, unit steering committees, and initial activities at unit level in line with the philosophy that 'each individual associated with SBHA shall be committed to and responsible for improving the quality of the organisation in the delivery of care'. The district steering group was charged with ensuring that 'the management of the organisation ... is aimed towards an efficient and effective service within the available resources ... monitor[ing] the direction and standards of the service and review[ing] the respective performance of the units of management with regard to the quality of service and ... the service rendered ... by other functions'. This committee included the district and unit general managers, the DHA chair and another member, and Dept. of QA staff. Initially the emphasis was on the establishment of a few projects in each unit, the success of which would (it was hoped) lead to awareness and enthusiasm for quality throughout the organisation.

The incorporation of QA measures and projects into short term plans was slow to be adopted by units, and although the district was ahead of most others in developing QA little provision was made for training. Some of the projects which were undertaken in the first few years included a large survey in the acute unit entitled 'What the patient thinks' (see Thompson, 1987), a survey of satisfaction with maternity services (from which no action resulted), and quality circles which got off to a slow start but are now thriving - indeed, the district is providing quality circle training for other HAs. The QA department spent considerable effort in developing a 'South Bedfordshire model' for QA, following a systematic approach introduced by an outside consultant and in pursuit of an overriding DHA objective 'to provide appropriate high quality service to the population within the available resources it has at its disposal'. The detail of this model was not made public but was used to guide the priorities of the district QA department until it was disbanded. A significant development, in accordance with the devolutionist policy of the new DGM (appointed from mid 1987), was the establishment of the St. Mary's hospital 'pilot' project.

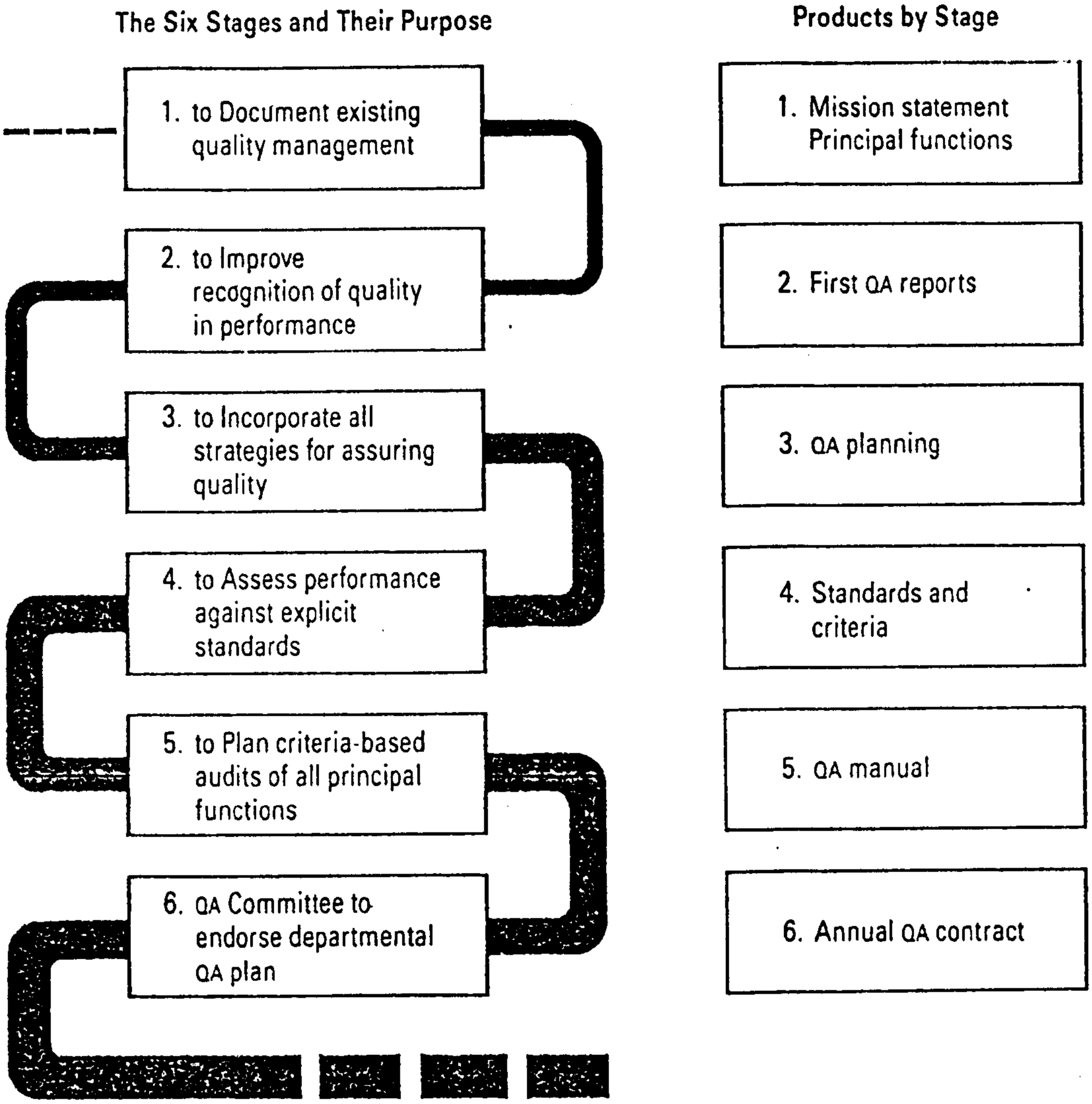
b) St. Mary's hospital 'pilot' project

St. Mary's hospital, Luton, is a geriatric hospital with 150 beds occupying a workhouse site, with many old buildings and a modern day-hospital in the grounds. It is part of the acute and geriatric services unit and while a few non-geriatric services are based on the site, most are at the Luton and Dunstable hospital (L&D) a few miles away. The consultant geriatricians with beds at St. Mary's were highly resistant to change. The district's headquarters and finance departments are also on the St. Mary's site. As well as having taken much of the 'spadework' out of the development and introduction of QA through the identification of the district's mission etc., the director of QA brought back from a study tour to Canada a model of hospital-wide QA (Wilson, 1987) for which she wished to find a pilot site, probably not the DGH as Wilson's model had previously been applied in small hospitals.

The essence of Wilson's approach is an 'adult learning model', (ALM) which rather than postponing the introduction of QA (which revolves around information about performance) until comprehensive sets of standards have been developed, starts with what people already know and do. This improves motivation, not least because those involved are often pleasantly surprised to find that they do not need to change their work totally and already act to monitor quality in some ways. The ALM uses one-to-one coaching of department heads (including ward sisters and charge nurses) initially by the consultant working with the hospital, and later by those managers who have been trained, to monitor performance in their own departments and report information to higher levels (in Canada, to hospital governors) and to their peers. Thus new activities and efforts build on existing ones, having immediate value and maintaining momentum by recognising current successes. New standards are only written when they are needed to be used (and existing ones cannot be adapted to serve the same, clearly-defined, purpose.)

Figure 6.4 illustrates the stages of the ALM for the introduction of hospital-wide QA.

Figure 6.4 The Adult Learning Model for quality assurance (after Wilson, 1987).



St. Mary's agreed to be the pilot site, and once the Authority's overall objectives, philosophy and values had been established towards which St. Mary's was directed, a new QA committee was set up comprising department heads (including nursing and professions supplementary to medicine, but not clinicians at this stage). Briefing meetings of a wide cross-section of staff were held, and terms of reference were agreed. The main objective of each department and its principal functions were identified soon after the scheme started in Feb. 1987, and work commenced in identifying ways of measuring quality in each department. A set of simple forms for identifying objectives and measures and reporting the outcomes of monitoring quality to the QA committee (who give feedback), was introduced. A conscious decision was made to include the private firm who had won the contract for domestic services, and their quality control forms, with a customer comment section, were adapted for use in co-ordinating cleaning.

At first, coaching of committee members for this work was carried out by the district director of QA and the director of nursing services on the St. Mary's site (a time-consuming process). The scheme benefitted from personal interest and sporadic practical involvement of the designer of the model, Dr. Wilson (a Briton who is now a director of the Ontario Hospital Association). After its first year the programme had evolved to meet St. Mary's needs (in some ways different from Canadian hospitals). His approach, together with awareness of the success of a quality circle in St. Mary's catering department, helped to overcome the resistance to quality assurance which was initially strong following an earlier unsuccessful QA campaign. Rather than being driven to routine monitoring by accreditation systems as in Ontario, the hospital QA committee became a non-judgemental problem-solving team working in a changed organisational environment where documenting departmental progress was boosting morale and contributing to an increased sense of achievement. The director of the project reported that until it started, heads of departments had been very compartmentalised, looking after their own professional interests and blaming others if things went wrong - even if they were problems at interfaces which it was in no one's job description to deal with. The committee had now become very supportive and people had started to share their problems very constructively. Backbiting and blame stories had reduced dramatically, and 'the biggest gain to come out of the exercise so far is that heads of departments are working as a team' (interview notes).

While the approach starts by identifying existing sources of performance information, and using ones which have been neglected, it can incorporate all the forms of quality assessment which those involved may wish to develop (including clinical audit, patient satisfaction surveys, standard setting and so on). Wilson's use of the model in Ontario includes a two-cycle process, first without and later with quantitative standards. At St. Mary's, existing standards are applied, and gradually new ones developed; the director of the project felt that having standards and monitoring performance should be part of the normal management function, an essential part of professionalism, and QA should not be

compartmentalised. As well as change in the organisational climate, a number of more tangible outcomes, directly or indirectly linked to better patient care, were reported after 12 and 18 months which indicated a new willingness to bridge organisational boundaries and demarcation lines, and listen to the views of even the most unskilled and low status staff. 'Ancillary staff appreciate a project with a practical focus, and have come up with some very good solutions to their problems, which they are able to discuss with confidence in multidisciplinary committee meetings'. (This had even had effects perceivable by visitors from the Health Advisory Service, who had commented that they found people like porters much more articulate than in other hospitals).

Practical outcomes have included, for example, arrangements being set up for looking after wheelchairs for occupational therapy - the absence of which impinged on nearly all departments - and after a major restoration effort the hospital was 'rewarded' by a grant from trust funds to buy some additional chairs, which boosted morale. A system for reporting, monitoring and trying to understand the causes of falls by patients was established, and links were made with community staff to assess compliance by patients with self-medication at home. However, in this hospital although clinicians are kept informed of the committees' activities, it was not seen as a route to get them formally involved in QA. It was felt that they may change their attitudes and behaviour slowly as medical audit, Royal College and other professional initiatives develop; however, some discussions would become necessary as the QA committee started to examine discharge policy. Quality circles, introduced earlier as a district-led initiative, continue. They seem to guard their autonomy jealously (having valued links into a wider, district network of circles), but co-operate with the project.

After a year, the committee at St. Mary's decided to divide into two, for direct patient care services and support services. After six months of the new arrangements, when these interviews took place, each was meeting regularly and undertaking its own projects, with joint meetings every three months. They had learned to be more objective, self-critical, and to recognise the knock-on effects of each department's work. No special modelling techniques had been employed; 'simply being prepared to think, ask, and look - take the risk - makes a terrific difference'. Through the development of a sense of common purpose in implementing change support staff had become particularly aware of their part in the patient environment, the effect of their work on others, through practical demonstrations of how roles are interrelated. One committee was planning changes to chiropody services, and had immediately started looking for implications for other parts of the service. (Recalling a previous revision of chiropody services in the district which was a well-meaning but unmitigated disaster, this approach certainly has its advantages). The division of the committee into two gave one departmental representative a chance to participate fully, having previously been keeping a low profile as his head of department disapproved of the project. He became the leader of one of the new committees; 'the threshold of resistance

had been breached as his role could now be seen as reflecting his involvement as a professional, in a committeee comprising groups regarded by his boss as his peers'.

This illustrates the benefits of running such a project in a relatively small organisation, where peoples' attitudes and roles are well known to the co-ordinator who can devise subtle routes towards change. After its initial achievements in almost all departments, the district director of QA sought to encourage other units (including the general acute services at the L&D) to adapt the model to their needs. Such needs may involve considerable changes, and while St. Mary's would continue to develop the programme fully this was no longer seen as a pilot for district-wide implementation. Central direction and expertise had helped to get the project started ('seeing QA as an integral part of management is not enough to make this sort of change happen'), but the role of QA and this project had changed with the new DGM. The director of the St. Mary's project felt that in a big hospital, the model would need to be quite different as it would not be possible to have the same level of personal appreciation and knowledge of the work of others. However, the model could be broken down to operate with pairs of departments which interfaced in particular ways, using similar documentation.

Experience at St. Mary's suggested that it was important for someone explicitly to have the development of quality awareness as a key part of their work, but that this did not need to be at district headquarters level; the important thing was to have a neutral facilitator who was not a line manager. Specialist outside help had not so far been needed, although a particularly complex or technical project may require expert help; but the committee would remain in charge - 'ownership is the key'.

Summing up, the hospital-wide project's director at St. Mary's noted that there was a range of quantifiable outcomes (e.g. savings on pharmacy costs), some more general indicators (lower turnover of staff, inter-union disputes), and less measurable but almost equally tangible changes in attitude and approach, for example to new members of staff; 'changes are far better received, much less moans, people are prepared to take things on board and try to make them work'. The advantages of the organisation-wide approach on a relatively small-scale site came through its effects on the organisational climate; it has given people confidence and support, and thus enabled them to take the risk of considering others in their actions and decisions. On a larger scale, the same principles are important but other ways may need to be found to implement them.

c) Other references to Wilson's hospital-wide model

Implementing Wilson's model effectively even in a small hospital with the normal range of tensions and challenges requires insight, tact, and a wide range of skills. However, another North West Thames district - Barnet - has adopted the model across the whole district. Their approach (described in the November 1988 edition of the NAQA journal and conference proceedings) has been similar to St. Mary's, Luton, operating through wards and departments, starting the evolution of qualitative data from quantitative data through initially-available measures. Although computers could be valuable in the context where departments share interests in data, the main emphasis has been on the development of human systems first. Facilitators negotiate between groups, using the common language of the Ontario model. The system can incorporate all sorts of quality-related data and assessment techniques and ensure that whatever is available is fully utilised. Both Barnet and SBHA were early participants in the region's QA experiments, and as we noted in Section 6.4.2 the region has itself recently adopted a TQM approach at headquarters. So perhaps the wider system climate was encouraging to these organisation-wide efforts.

When Wilson himself addressed the NAQA 1989 conference, he drew insights from the ways its application and context differed in Canada and the UK. Expressing the view that although QA advocates in Britain were beginning to feel that they had found 'the answer', they (as in Canada) may not be clear what questions they are trying to answer, he suggested three questions for three levels of practice. The problem-solving level which we have described above, could correspond to an answer to the question 'how are you trying to improve the quality of your operation?' However, problem-solving does not guarantee that the most important problems are being addressed. A more comprehensive monitoring and auditing system comes through the identification of a department's main tasks and functions, the fulfillment of which is assessed through the QA system - answering the question 'how well are you meeting your service objectives?' The third level of QA competence is assessed in response to the questions 'how well are you providing care and service? How do you know?' Such questions - 'the mature quest for health care quality assurance' - can begin to be answered through combinations of well-ordered data: audits and problem solving reviews, scoring systems for monitoring principal functions, and professional approval or customer satisfaction data. (Wilson, 1989).

He concluded on a point which can be raised in the debate about the role of national as well as organisational culture in making the striving for continuous improvement in TQM possible. Although the better-funded private health sector makes claims for better quality of care, 'your sense of responsibility is not inferior to theirs and your caring about your staff and their caring for their patients still lives strongly within you. But what is more important is what quality and QA can mean to those who provide service on the front line' (p.15). Quality enhances for workers a belief in the value of their work, and QA can give them some control over the most routine of jobs, setting standards and seeking to achieve

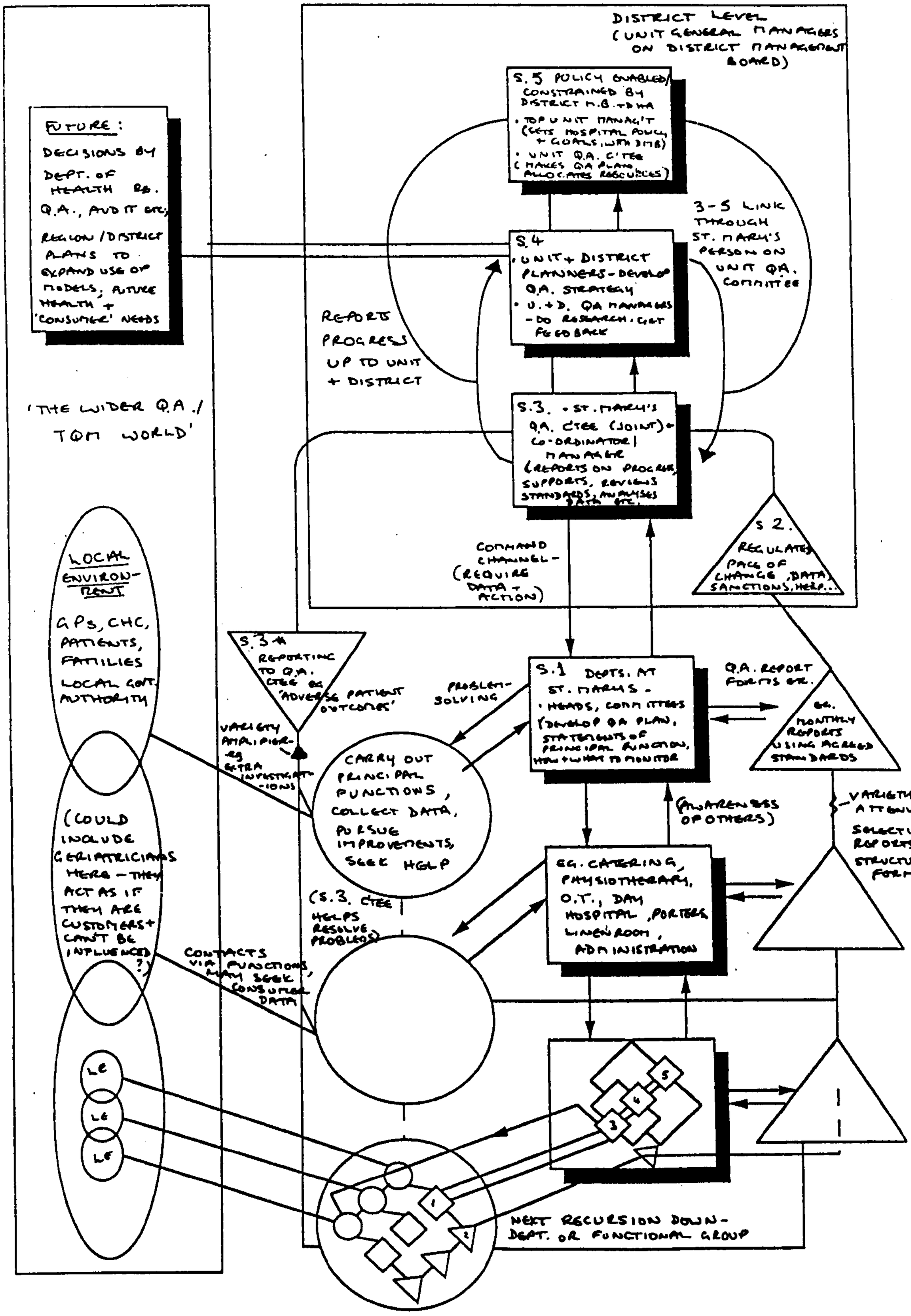
them. And as the staff in private hospitals, or Japanese firms in Britain, come from the same national culture, there seems to be merit in assuming that British workers can both benefit from and contribute to TQM.

So the human ingredients for organisation-wide approaches to quality in the NHS are available, and in Barnet, SBHA and other places means of developing the organisational culture have been found. In the final part of Step 5 we will assess how the structure for QA in places such as St. Mary's hospital can contribute to or hinder the viability of approaches which assume at least some characteristics of total quality management.

d) Viable system model of QA at St. Mary's hospital, Luton

Figure 6.5 illustrates the location of some of the main structural elements of the QA system at St. Mary's, as observed in 1988. Systems 1, 2 and 3 are fully located in St. Mary's. System 4 combines St. Mary's, other parts of the acute unit, and district staff when it operates (which may be sporadically), and System 5 is located at unit management board level. The next recursion up would be the district level, and the next down would comprise department and sub-department levels and groups. However, less detailed information is available about these levels as they have not been our primary focus in the study of potential TQM.

Figure 6.5 The quality assurance system at St. Mary's Hospital: potential as a viable TQM system.



We have thus mapped out the basic elements of a system which has TQM potential, onto an organisational structure. This sketch has to be taken with the description above and other available material; it indicates that the main structural sources of viability are present. Here, we will note the scope which the outline suggests for strengthening structural elements, in order to develop the presence of the 12 key features of TQM as they were mapped onto the VSM at Figure 6.3 (listed below in the same order). Assuming that, in the St. Mary's context, it were considered desirable to ensure that as far as possible those key features of TQM were present, the following 'improvements' are proposed for further investigation.

1. Complete fitness of processes/products for customer requirements, ensured through production and design, and responsive to change:

    System 4 - if the QA presence at district level is diminished, special efforts may be needed to ensure that planning (still co-ordinated at district level) and quality are linked adequately.

    System 4 - unit general management and senior managers, based at L&D and less enthused with QA, may control some important interfaces with the local population, council etc. Need to ensure they pursue St. Mary's interests.

    System 1 - continue to develop the ALM approach throughout hospital, and for new staff etc.

2. Everybody has customers, internal and/or external:

    System 4 - again this may be a weak link, less appreciation of how L&D services affect St. Mary's, for example. The lower systems seem well aware of this message; perhaps communication between peers (e.g. staff in accounts depts. at St. Mary's and the L&D) would be one way of illustrating the knock-on effects of other people's working practices, as well as discussion at heads of services meetings.

    Efforts are increasing to 'get to know the customers' in the wider community, and further links between St. Mary's departments and health education and promotion, GPs and community nurses would be valuable in considering discharge and admission policies, for example.

3. Quality is everybody's business:

System 1 - need to ensure a common appreciation of the concepts, may need more training/ development than currently provided; operational management needs to be alert to tensions which the different perceptions held by clinicians may cause.

System 3 - reinforcing the above point - need to be alert, open, pragmatic (the co-ordinator certainly is), and provide more resources if possible.

Systems 4, 5 - we have assumed that QA activities and philosophy can develop at lower levels autonomously, and that senior management will anyway be conveying their appreciation of the importance of it. Contrary behaviour could have a damaging effect regardless of theoretical autonomy. The well-publicised commitment of health authority members and especially the chairperson, provided it is genuine, can be useful in strengthening that of general managers.

4. and 5. Quality costs, potential performance measures, have three aspects and their relative significance will change:

All Systems - so far, in spite of the NHS preoccupation with 'cost improvements', little emphasis seems to have been placed on the costs (and financial benefits) of quality. Wilson suggests that quality circles are relatively expensive, but the district seems unconcerned about the costs as QCs increase. At St. Mary's, nine examples of quality improvements by different departments were reported to the DHA on 16 March 1988. In that report, a cursory assessment of whether their impact in cost (spending and saving) terms was attributable to failure, appraisal or prevention (or more than one) suggested that costs of failure would have been reduced by four of the innovations; significant costs of appraisal would be incurred in five of the innovations; but in eight of them prevention would be significantly increased, thereby reducing appraisal and /or failure costs. The scope for spending and saving related to each innovation varies widely and, if assessed, could if necessary ensure that high priority was given to the potentially most costly (probably accidents to patients). A few of the changes will have achieved their goals rapidly and represent completed tasks or ones which now are failsafe routine.

If System 3 or 1 wanted to place greater emphasis on costs of quality (or un-quality), to be monitored through System 2, this should not be too difficult, nor outside the spirit of the St. Mary's quality model.

6. Right first time as standard:

System 1, operational departments - in the light of the novelty of quality assurance and participative approaches to improvement at St. Mary's, there seem to be relatively few of the problems tackled so far which, when resolved, demand an overriding emphasis on 'right first time'. This should, however, be an essential maxim for direct patient care providers - doctors, nurses, physiotherapists - and pharmacy and other laboratory staff. The latter group do have such professional standards (reinforced by a separate QA project in the past), and their experience may be adaptable for others traditionally less concerned with precision (e.g. those serving patients' meals). Cybernetic concepts of feedback and especially feedforward control, using System 2 effectively (at the next recursion down too) could hold the key to getting more things right first time. Obtaining feedback from patients, accompanied by a commitment to investigate and take action, needs greater development in most parts of the NHS.

7. Zero defects as a goal:

Systems 4 and 5 - as with the above point, some groups for whom this is particularly pertinent should be operating this already, and senior district and unit management should operate sanctions if this goal is not attained. At the early stage of the St. Mary's model, the emphasis was not generally on standard setting so zero defects (when this could reasonably be assessed) is not yet an appropriate concern. However, when policies are set (e.g. for contracting after the White Paper) at higher organisational levels, such standards may well become relevant. Then ideas and advice may be needed from a wide range of sources in order to make such goal attainable for more parts of the service.

8. The search for quality is continuous:

System 5 - although this seems to be an attainable objective in UK society, it is probable that many of those involved in seeking quality improvements will feel that once certain goals have been achieved, problems solved, then they have fulfilled their requirements. The perception that many current quality achievements will need effort to be retained, and that changing needs and demands placed on the health service will continually present new challenges, may come from the grass roots especially those closest to patients. But it also needs strong emphasis from the top (at district, region, professional and government levels) and needs to be

accompanied by praise, understanding, material rewards; and those at the top need to 'practice what they preach'. There may be a role for organisational development or psychology consultants here.

9. Good quality needs good information:

Systems 1 and 2 - Wilson and others practically involved in QA have gone a long way towards equipping all sorts of health workers with the confidence and ingenuity to develop their own useful measures and sources of data. This is a particularly strong point in Wilson's approach and seems to be successful. Little evidence was available to indicate much development of control loops such as described in Chapter 5 or by Rooney (1988), or the sorts of 'transducers' or filters acting on information produced in the hospital before its use by managers. Perhaps a study of how any computers which the hospital may already have (such as nursing and pharmacy ones) could be used to extend the role of information in QA, could be fruitful - if not already done.

System 4 - there still seemed to be relatively little effort to find useful information about quality for planning purposes, apart from recognising the shortcomings of the DHSS PIs and use of the Yates ones especially by the district information officer. (However, an operational research study of the workload and working patterns of district nurses had been carried out for the community unit by consultants, to improve the quality of their work through the use of their time). Attempts at QA research observed in other parts of the district betrayed a lack of awareness and concern about statistics when simple statistical analysis could have been useful and possible. Perhaps the resistance to quantifying quality, observed at the very beginning of this research, still prevails?

10. Commitment from the top, and resources, are essential:

Systems 1 and 3 - those at the top in their departments, and at St. Mary's overall, clearly and almost without exception were displaying their commitment. The resources they could make available, in terms of money and staff time, were highly constrained. Although the project co-ordinator and senior manager at St. Mary's did not feel that commitment from above needed to be in the form of QA posts in the district hierarchy, she did stress the need for leadership and practical co-ordination, to ensure that resources were used wisely (not re-inventing the wheel). However, she displayed a strong sense of realism when talking about the changing expressions of commitment from the unit and district level since the QA initiative in SBHA started, and a determination to proceed at St. Mary's. The hospital is

physically and traditionally relatively self-contained (almost insular) which in this case seems advantageous. However, with the tendency to keep the NHS estate under close review and look to small, old hospitals as candidates for closure, this one needs to be on its guard, and publicising its strengths.

System 5 - the above point covers the commitment aspect, but resources seem to betray the traditional NHS underinvestment in training. Have the funds which previously were retained at district HQ for the QA dept. been distributed to units? Trust funds (some of which the district controls) can be a valuable source of monies for matching savings made by staff, or the purchase of items which make patients' lives easier (as in the wheelchair example) - perhaps these can be more fully exploited.

11. Organisational and professional cultures need to be responsive to criticism:

System 3 - perhaps suprisingly, this does not seem to be the intractable problem which one might expect, apart from the medical professionals (in this case potentially particularly influential because of their small numbers and entrenched attitudes, lack of influx of new younger doctors who could dilute the effect of the older ones.) This may have changed or be changing, with the increase in consultant posts and changing professional views nationally. For the non-clinical staff, Wilson's model sensitively implemented seems to anticipate some of the resistance which arises from fear and feeling threatened. Perhaps this is enhanced in SBHA where in spite of some failures and a lot of cynicism, quality circles have opened the way to participation and decision-making by a range of staff groups and senior management and the DHA are obliged to regard them as 'a good thing'. Thus the climate, particularly for the relatively slow and unpressured life at St. Mary's, seems to permit changes in organisational culture fairly readily.

12. Quality comes from pride in one's work and having the resources to satisfy customers:

System 5 - although this is clearly pertinent for all Systems, System 5 has the ability more than the others to provide resources and policy priorities which enable the lower levels to implement changes they have designed. Developing pride in one's work when it hasn't previously been expected, is a fragile thing and even more easily destroyed by frustrations from above than by frustration with one's own lack of skill or temperament.

Thus the verdict on St. Mary's model, based on the VSM and TQM characteristics, is 'doing quite well, could do better'. After a feedback check on the outputs from the analysis listed above, we will consider the prospects for improvement of a few of the more significant weak structural points at Step 6.

6.4.4 Feedback check on output from Step 5 - would any proposed changes be systemically desirable?

a) Check against multiple cause diagram (Figure 6.1) - would any of the suggested changes lead to change in an undesirable direction?

Looking at the effect the suggested developments would, if implemented, have on the interactions in Figure 6.1, the following considerations emerge. (The numbers refer to those of the 'desirable features' considered in above).

Re. 1 - it is highly unlikely, but if a strong St. Mary's lobby diverted more than its fair share of resources or attention from other parts of the district, other patients may suffer instead.

Re. 4 and 5 - prioritising activities on the basis of their cost implications as unlikely to lead to the same ordering of priorities which consumers might choose. While such choices are making explicit decisions which were previously badly made or remained implicit, this is an issue which has to be faced in a range of NHS contexts - how are choices made under conditions of higher expectations and needs than resources available? A VSM-based model, while it can reflect stakeholder views, is unlikely to be adequate for these more moral and value-laden decisions.

Re. 6 and 7 - patients can be unduly tolerant of faulty service, and as taxpayers they ultimately bear the cost of getting things wrong. Perhaps more attention should be paid to these features than has initially been suggested; certainly they suggest merit in assessing costs of quality.

It does not seem therefore that implementing the suggestions made above would be likely inadvertently to lead to undesirable changes in terms of the multiple cause diagram.

b) Checking against Beer's three sorts of performance measures (mentioned at the end of Step 4)

Beer, it will be recalled, defined three general sorts of measures: 'productivity' (the ratio of actual achievements - sales, items produced or whatever - to capability or planned achievements); 'latency' (the ratio of capability to potentiality - the achievement levels which the performing organisational unit wishes it could attain); and 'performance' per se (the ratio of actuality to potentiality). How will the suggested changes be likely to improve performance in relation to any of these? Here are a few examples:

- the effect of 'System 4 as a weak link' in appreciation of the needs of internal customers could impede productivity;

- 'performance' in Beer's terms may be indicated by the extent to which parts of the health service are able to meet the full needs of the community;

- again 'performance' will be improved if training is increased so quality can really become everybody's business;

- attention to the costs of quality can improve all three types of performance;

- levels of attainment in terms of getting it right first time, and achieving zero defects, are examples again of performance - the ratio of actuality to potentiality;

- as individuals become more concerned about the quality of their work, they will be measuring their achievements in terms of 'performance' rather than 'productivity'.

c) Checking against Espejo's tenets (1989)

In the methodological discussion offered by Espejo on the application of the VSM to social organisations, he raises a number of questions which can usefully be posed in some analyses. For example, questions about the organisational identity, its purposes from different viewpoints, alternative modes of application of the VSM - diagnosis or design. In an early application of the VSM to hypothetical QA systems at a district and regional level, these questions and Espejo's arguments were valuable in clarifying assumptions of the analytical process and identifying areas requiring further research. In the present example, the system and our reasons for analysing it have been relatively clearly established from the start, so it was felt that posing Espejo's questions would not be necessary here. Nonetheless, they can form a useful tool both for planning and checking an application of the VSM in other contexts.

6.5 STEP 6. IMPLEMENTING DESIRABLE AND FEASIBLE CHANGE

As we noted early in this chapter, a potential limitation of using the VSM as our blueprint for total quality management systems and as a diagnostic and redesign tool for a particular example, is that the VSM is essentially a model of structure. It incorporates many principles of cybernetics and of arrangement which can indicate the nature of structural interconnections and relationships, within the system in view and between it, its environment and higher and lower recursions. It also, through the notion of viability, provides the system with an element of dynamics and potential for change. However, in our simple use of the model to structure some common features of TQM before comparing it with the St. Mary's QA model, we have paid relatively little attention to these more detailed features of the viable system model.

Step 5 suggested some uses of VSM features in designing changes to the example of interest, and in passing suggested some potential implications in terms of the feasibility and acceptability of those changes. As we noted earlier, the application has been aimed at building on strengths and we will retain this constructive and optimistic approach in summing up a few changes which seem likely to require more than simply a further detailed scrutiny of the VSM. We will take a more general view here and bear in mind some common experiences of health service attempts at organisation-wide QA or TQM. Again we will refer to the numbered features of TQM identified in Section 6.3.1.

1. 'definitions of quality of goods or services include the focus in their design and production, of complete fitness for the customer's requirements (and readiness to respond to changes in those requirements)'.

As it becomes more aware of 'customer' expectations and needs, the NHS both locally and nationally will even more urgently have to address the issue of what expectations and needs it is reasonable to seek to meet. Flexibility and responsiveness need parameters or thresholds for action (a role played by the VSM's anti-oscillatory mechanisms), and greater customer sensitivity demands controlled response in order to be effective.

After the 1989 NHS White Paper is implemented, this situation will become less rather than more manageable.

2. 'everybody has customers, although they may be internal to the organisation rather than end-users'.

People often need to feel that it is worth their while to consider possibly unknown internal (or remote external) customers before they 'put themselves out' for them. Perhaps short term staff exchanges between hospitals, departments or sites could increase appreciation of the impact one's work has on others, although some people are always likely to be more concerned than others. Helping staff to gain as full a picture as possible of how the organisation works, is always desirable.

3. ' quality is everybody's business, not just the responsibility of experts in the quality assurance department (if there is one) who should act as facilitators'.

The important idea that quality is everybody's business has become devalued in many places, as it is stated at the same time that QA 'experts' are highly visible, or with little or no guidance as to what everybody is supposed to do about it. Models such as Wilson's do provide practical examples in a clear context, but we need to be aware of the speed with which neat-sounding phrases begin to arouse cynicism or indifference.

4. 'quality may not be free but the net financial benefits of investment in quality can be quantified, and although the emphasis on cost of quality may vary it is one potential measure of performance'.

5. 'the cost of quality has three main components - failure, appraisal and prevention - and as TQM is implemented the overall cost (as a percentage of total operating cost) will decrease, and the cost of prevention will become relatively higher in comparison with failure and appraisal'.

In these times of resource management, income and expenditure monitoring and the like, increasing awareness of quality costs should not be difficult to find. However, the appropriateness of financial measures always needs to be tested even if they provide a very convenient common denominator for comparing disparate sorts of QA activity. Cost of quality graphs and models can be useful devices to make a case for resources for QA and training, too.

6. 'with the philosophy of 'prevention rather than detection' comes the standard of 'getting it right first time'.'

7. 'instead of an 'acceptable level of quality' which allows for a percentage of faults or failures, a goal of zero defects may be set, for attainment over the longer or shorter term'.

'Right first time' and 'zero defects' goals are of limited value if they are not linked into appropriate reward and sanction systems. These need not be straight financial bonuses or punishments, but appropriate responses to the systemic context. Equally, such targets should not be set unless they are clearly attainable and relevant.

8. 'the search for quality improvement is continuous, and quality standards are not set once and for all'.

The continuous search for quality improvement could mean ever more stringent targets on one dimension of performance, or a constant search for new types of target to aim for. TQM in the health service context is likely to mean a combination of both, and this feature does highlight the importance of organisational clture. Keeping up some momentum, building a high level of awareness of quality in all its forms into 'the way we do things here' are all-important. These sorts of change have been mentioned in several previous chapters, and a lesson from Wilson's adult learning model is that where people already feel at home with an approach in some small way, this can be built on. There are few people working in the NHS who do not have some commitment to the values of that service, and an interest in the well-being of others. As Wilson has written (1989), this is a good foundation to build on.

9. 'good quality requires good and plentiful information'.

Plenty of sources outside the field of quality management have contributions to make in the development of information systems which people can actually use to some effect. As mentioned above, there is much interest in finding and using information in spite of some more philosophical debates about the quantification of quality. Most of those involved in turning gut-feeling concern into action do not have too many qualms about identifying proxy or substitute information, but a general increase in quantitative skills at all NHS levels is also desirable. (see, for example, Pollitt, 1989).

10. 'commitment of top management to continuous quality improvement is essential, and requires to be accompanied by considerable resources - in terms of time, communication and information systems, equipment and especially training'

11. 'organisational, group and professional cultures need to be able to generate, accept and act on constructive criticism'.

12. 'the attainment of quality standards and awareness depends on giving everyone pride in their work and the resources to respond fully to customer requirements'.

Most of the implications for acceptability and feasibility of these points have been noted already. There is a case for considering what Organisational Development has to offer here, and understanding the implications of changing professional views on quality assessment. There are interesting times ahead where clinical quality is concerned. The emphasis on the importance of commitment from top management needs to be generalised so that changes in leadership do not have damaging effects on perceptions of those lower down about the priority given to quality. The concerns of middle management were noted earlier in this chapter, and their feelings of vulnerability need to be taken seriously. They reflect the expectations which organisations and society have of managers, and have complex implications.

Inevitably, both the initial introduction of organisation-wide QA schemes, and the improvement of existing ones, will require attention to process and outcomes as well as structure. While successful uses of models such as that of Wilson are increasingly being reported, they need to be understood in their wider and 'historical' NHS context, as well as their general social context. If the Department of Health is to adopt an approach of recommending good practice in QA, and several TQM pilot schemes are being set up, it will be interesting to see how they tackle these complications and evaluate such schemes.

6.6 STEP 7 - WHAT ARE THE PROSPECTS FOR TQM IN THE NHS?

So far we have been exploring examples of health care quality assurance which fall short of TQM as described in Section 6.3. Nonetheless, many of them profess a concern for comprehensiveness with quality as 'everybody's business'. We have tended to conclude that there are at least some important features of TQM which are present in the NHS and could become more common with time, effort and resources.

Most of the literature about comprehensive QA systems is from outside Britain, and (in the English language at least) dominated by North America. Many are linked to - and often limited by - national or regional accreditation programmes. However, a few references from several countries may be of interest, including Luke and Boss (1981 - USA), Ruiz (1988 - Spain), Parker and Avery (1986 - Australia), van der Horst et al (1987 - Holland), American Hospital Association (1983), Mickevicius and Stoughton (1984 - Canada).

Early in this research the work of Pollitt (1986b) was referred to in the context of his list of suggested conditions which favour the development of more appropriate performance evaluation schemes for public services which include assessment of quality. Comparing his list with our generalised picture of organisation-wide health service QA (seen as a mapping of the features of Wilson's approach and those mentioned in 6.4.2, onto the VSM), we can assess the prospects of the evolving NHS pattern, in Pollitt's terms.

a) Pollitt's conditions.	b) Present in our VSM-based NHS model?
i. Use of performance assessment as a cost-cutting exercise or to reward or penalise staff militates against learning and professional development.	Wilson's model is free of these problems, but some others may link directly and simplistically with IPR or cost improvement programmes - not immune.
ii. Voluntarism is desirable especially if the scheme rates individuals.	Less relevant to the NHS pattern apart from clinical audit if involved; but more relevant in future?
iii. Diversity of public services must be recognised.	Often models adopted straight from commercial, non-medical sector, or health services abroad which are mostly private; can't find any examples from within UK public sector. Wilson's model usually put in UK context by him. Risk that govt. will impose standardised systems on public services - already happening with Audit commission's new NHS role?
iv. Direct input from consumers/ the public should be regarded as legitimate.	This has been side-stepped in some ways, focusing on HA-initiated customer satisfaction surveys and the (variable) role of CHCs.

v. New data collection systems likely to be needed.	We noted this, it is generally recognised though not fully developed.
vi. Problems of short term, mechanistic, efficiency focus, and how to aggregate judgements of performance satisfactorily.	All of these are problematic and, if external pressures continue to influence the development and use of performance assessment systems, for quality or not, they may be hard to resolve.

So although NHS approaches to total quality have been shown to have within them the potential at least for viability, in Beer's terms, this does not automatically equip them better to meet Pollitt's requirements. Performance evaluation in a viable NHS TQM model may still be introspective and mechanistic, and other models may be better for developing such process and behavioural aspects.

6.7 STEP 8 - PRELIMINARY EVALUATION OF THE SYSTEMS APPROACH USED FOR TOPIC 3

Having noted some reservations about the content of the VSM-based total quality management model for the NHS, how did the VSM perform per se as a model for quality improvement? Here we present answers to the standard questions about the use of the model, and in Step 9 (in Chapter 8) assess some of the criticisms of the VSM for uses such as the one presented here.

1. The model has shed some light on structural elements in particular, and in the process of analysis we have been able to relate these to key aspects of process too. Combining the VSM with a representation of TQM was a useful device.

2. The colloquial and research questions related to this topic raised issues of satisfying hierarchies of needs from the individual to the wider population, and exploring the links between structure, process and outcome. The VSM has shed some light on the feasibility of introducing into the NHS the conscious attention to the needs of individual patients which is implied by TQM. We assume that structure, process and outcome are interrelated, but focus here on structure; however, we would argue that getting the structure 'right' is necessary but not sufficient for good performance. A range of tools may be needed to design and implement new quality systems in the NHS effectively.

3. The model is comprehensive enough for our purposes here; we have only explored some of its features and powers.

4. We may have gained greater understanding with more detailed data, which could readily have been incorporated in the modelled system. The level of hierarchy in the recursive VSM was appropriate, and further insights will be gained from looking at systems at least one recursion up and down. The concepts of autonomy and viability in the context of complex systems were not fully exploited here.

5. Internal and external factors seem to have been adequately represented, and the VSM brings the local and wider environment, present and future, into consideration.

6. We have not explicitly explored how specific changes to the system would interact, apart from a few examples. More detailed modelling within the cybernetic paradigm would be valuable.

7. Analyst bias should not have played too great a part, as the analyst maintains some scepticism of both the VSM and quality assurance, yet has drawn largely positive conclusions. A number of other analysts have drawn comparable conclusions about aspects of NHS QA (for example, Pollitt, 1989), although not necessarily from local experience or with a TQM model for comparison.

Although Beer himself quite often refers to hospitals as examples for aspects of the VSM, finding applications to health care quality has proved impossible so we cannot compare our modelling directly with the experience of other analysts. Nonetheless, the examples of VSM applications mentioned in Chapter 2, and in Espejo and Harnden's compendium (1989), have provided some insights. In the final chapter we will review some more theoretical aspects as well as the empirical approach to this and the other three topics.

CHAPTER 7. ASSESSING PERFORMANCE THROUGH OUTCOMES OF CARE

7.1 STEP 1. INITIAL CHOICE OF METHODOLOGY FOR TOPIC 4

7.1.1 Introduction

At several points in earlier chapters we noted the comparative lack of attention which has so far been paid to evaluating the performance of the NHS in terms of its impact on the health of individuals and communities. Explanations suggested that cultural and political as well as technical considerations played a part in this neglect. Differences in values as well as interests abound, which led to the initial choice of Checkland's (1981) soft systems methodology (SSM) as an appropriate analytical approach. The stages of that approach were described in Chapter two and in this chapter we will report on their application, which followed the usual ten-step analytical process.

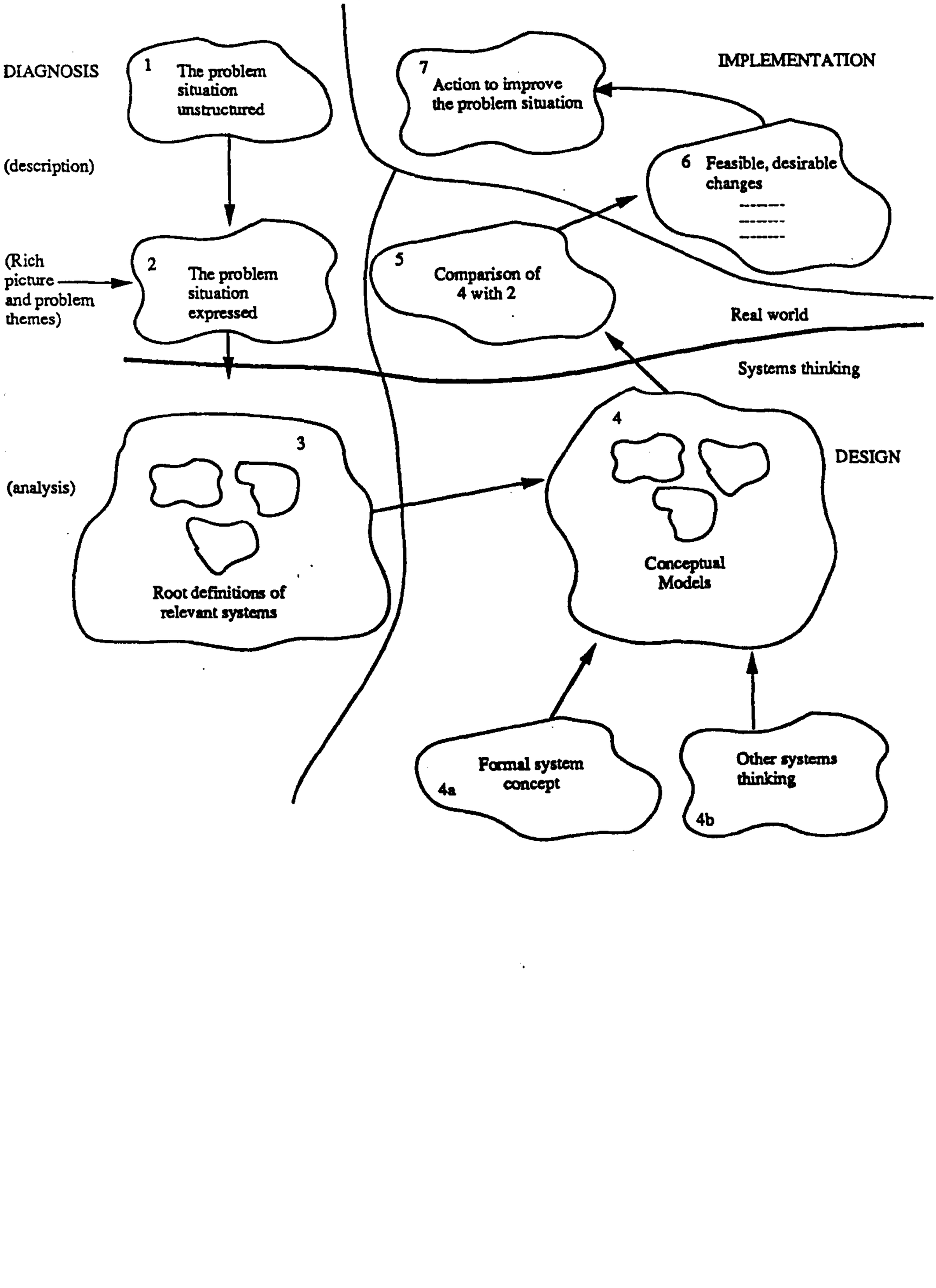
It would not be fair to imply that outcome measurement has been completely neglected. As well as interest from individuals and some parts of the medical profession, there have been several developments recently which may be seen as steps towards more widespread and formalised outcome assessment. The service objectives in the 1988 and 1989 short term planning guidelines from the Department of health (described in Chapter 4), include examples of activity levels being regarded as adequate proxies for outcomes (vaccination and immunisation targets, and breast cancer screening, for example). The 1989 STP guidelines place an emphasis on improving the health of the population through 'the effective diagnosis and treatment of illness and injury within times that are both clinically acceptable and reasonable' (DoH 1989b p.2). While little guidance is given as to the means of achieving this objective, regions are to ensure that district health authorities 'introduce quantified targets, based on the reports of their directors of public health, to improve the overall health of their populations' (p.2). One potentially useful monitoring tool already mentioned, is the incorporation of indicators of 'avoidable mortality' - deaths from selected

conditions potentially amenable to treatment - into the new DoH performance indicators (based on data collected under the Körner information system).

However, although we can acknowledge a few such developments, compared to the analysis of NHS planning in Topic 1 we are dealing here with a relatively blank slate. Our aim is to use a systems methodology and/ or model first to explore perceptions of why outcome measurement may be desirable; second, if there is a strong case for outcome measurement, to see how it can be developed and towards what objectives. To place our analysis in a context, we can suppose that actors in the problem situation - say DoH civil servants involved in the development of outcome indicators for use in routine monitoring - may benefit from a structured methodological approach. Working here with some primary but mainly secondary data, we will apply the SSM as if called upon as consultants by such actors. Unlike the application of the hard systems methodology in which the HSM was used as a blueprint for redesigning the NHS planning system, our application is more straightforward here, akin to a consultancy project with a client to tackle a messy problem situation - as there is relatively little to redesign. In a different context the soft systems methodology would be applied in an interactive way with a client. Here we need to treat the analysis which follows as the 'consultant's' thoughts on what the introduction, refinement and maintenance of outcome monitoring may involve, as if in preparation for action research.

Figure 7.1 sets out the stages of the Soft Systems Methodology, divided (as with the VSM and HSM in Chapters 4 and 6) into phases of diagnosis (description and analysis), design and implementation. Several stages in the methodology incorporate their own 'feedback checks' but in most other ways the approach to the analysis here follows the same 10-step process as for Topics 1, 2 and 3. Steps 9 and 10 are discussed in Chapter 8. However, it is appropriate to leave verification (Step 3) until after Step 4 has been completed. The rest of this chapter describes some aspects of current outcome assessment in the NHS and indicates what data have been collected. Stage 2 of the soft systems methodology, the rich picture and derivation of problem themes, appears in the next section. In Section 7.3 root definitions are constructed as Stage 3 of the SSM, and will be verified and validated mainly through the methodology itself. At Section 7.4, the conceptual model is built and compared with the real world problem situation (stages 4 and 5 of the SSM) - the design phase of our analytical process. Implementation is considered in 7.5 through the SSM stages 6 and 7 debate about feasible and desirable changes, and preliminary assessment of this analysis is in the final two sections.

Figure 7.1 The Stages of the Soft Systems Methodology.



7.1.2 Step 1 feedback check

Before proceeding with more detailed analysis, we need to check that at least so far our choice of methodology for the topic is reasonably sound. (Following Checkland (1981, p. 192), we may refer to models and methodologies interchangeably, 'the latter being themselves only conceptual models of systems to enquire and learn'.) Having posed the questions set out in Chapter 2, Section 2.6.2 to ascertain that the proposed use of methodology and models could meet the conditions for the overall process, a few points should be mentioned.

Although the SSM seeks to accommodate the more messy and less rational aspects of human activities, and defer the imposition of structure to the analytical stages in the 'abstract world of systems thinking', the approach itself is formalised and rational. As well as conceptual modelling and the use of the formal system paradigm, many sorts of model can be used at Stage 4 of the SSM, to increase the flexibility of the approach; and it is robust to internal and external changes, which can be incorporated into a revised rich picture before iterating.

The methodology produces documentation and diagrams readily shared with others, and is well suited to the multidisciplinary needs of an inquiry such as ours into outcome assessment. I have drawn on data from, for example, epidemiology, health economics and statistics.

With these reassuring points about the suitability of the SSM here, we will proceed with a more detailed description and analysis of Topic 4.

7.2 STEP 2. SKETCH OF TOPIC 4

7.2.1 Description of topic

In the context of our quest to assess the practicability and potential value for routine nationwide outcome assessment in the NHS, still a relatively unstructured problem but amenable later to discussion in systems terms, we first need to capture the essence of the problem area. Here Stage 1 of the SSM has involved the collections of data on outcomes, and Stage 2 the production of a rich picture and identification of problem themes.

i. Primary and secondary material about outcomes

A review of material collected during the process of this research revealed the relevance of the measurement of health status and outcomes to many contexts, a number of which have been discussed in earlier chapters. The material included: notes from interviews with civil servants, planners and managers which touched on, for example, the complexities of outcome measurement, its role in health promotion, variations in health status between communities and the implications for health services; a small number of references to outcomes in plans and annual review papers; and literature on aspects of clinical practice and policy. As well as references in earlier chapters (notably Chapter 3) relevant aspects and some material include:

- **medical audit including peer review, accreditation (in the USA), new requirements in the UK and confidential inquiries into maternal and perioperative mortality: Merry 1986, Black et al 1989, Diggs 1984, Jessop 1989, Stevens and Bennett 1989, Mitchell and Fowkes 1985;**

- **dimensions for outcome measurement (efficacy, effectiveness, appropriateness) and ethics and risks: Appleby 1987, Kingman 1986;**

- **techniques for outcome assessment (including data and information), avoidable mortality, PIs and technology assessment: Kind 1988, 1989, Charny 1988, Russell and Cole 1987, Dubois et al 1987, Greenfield et al 1988, Schroeder 1987, Scrivens et al 1985, Scrivens and Charlton 1983, Bauer and Charlton 1986;**

- **the incorporation of expectations of outcome into decisions about the allocation of scarce resources, including quality adjusted life years (QALYS), 'resource management', and prioritising resource use: Mumford 1989, Anderson 1987, Drummond 1987, Maynard;, 1987; Grimes 1987, Carr-Hill 1989, Vetter et al; and**

- policy issues, organisational and professional cultures affecting the prospects for outcome assessment: Black 1988, Devlin 1986, Ham (ed.) 1988, Mills 1987, West, 1984.

To expand on a few areas, medical audit can be defined as 'the systematic, critical analysis of the quality of medical care, including the procedures used for diagnosis and treatment, the use of resources, and the resulting outcome and quality of life for the patient' (DoH 1989j). The 1989 White Paper plans that all health authorities and family practitioner committees are to introduce systematic medical audit in the next few years. The form of audit processes are to be developed with the medical profession and their results will remain largely confidential, but the government intends that the pace of the use of audit should be quickened.

Two examples of relatively long-standing professional audit initiatives were mentioned above. The voluntary Confidential Enquiry into Maternal Deaths commenced in 1952 and now investigates virtually 100% of all deaths of women during the 21 months from conception (DHSS 1986b). Details of the circumstances surrounding each case are collected from all those involved and assessed by relevant experts, who give their opinion on the presence of any avoidable factors - defined in the Enquiry as 'a departure from the accepted standard of satisfactory clinical and administrative care which may have played a part in the ensuing death'. The purpose of the enquiry is to 'promote the local review of obstetric care, not to identify and discipline individual errors' (Butler and Vaile, 1984, p. 170). Although the proportion of maternal deaths attributed to avoidable causes appears to have increased, deaths from particular causes (notably anaesthetic errors) have declined as has the overall total of deaths due to pregnancy and childbirth, from 1094 in 1952-4 to 227 in 1976-8. The contribution of the Enquiry to these reductions is impossible to quantify with certainty, but the consensus is that as well as having some direct impact on medical and administrative practice, the enquiry provides a model for multidisciplinary reflection on practice (ibid.).

The Confidential Enquiry into Perioperative Deaths (CEPOD) originated in 1984 with a study in three regions initiated by the Royal College of Anaesthetists, where all deaths within 30 days of surgery were investigated (following the work of Lunn and Mushin, 1982). This has led to report from the Royal College of Surgeons on the implications for the training of surgical teams, and widespread discussion of the potential for further audit exercises. CEPOD has now been allocated central funding for five years to be extended throughout the NHS from 1989, with an initial focus on deaths of children under ten. Evaluation of the impact of the Enquiry will continue.

The wider monitoring of 'avoidable mortality' has developed in two main contexts. Premature mortality from relatively well-understood conditions amenable to treatment has been the subject of research at St. Thomas' Hospital Department of Community Medicine, with a focus on geographical and socioeconomic variations (referred to above in the work of Scrivens et al, Holland et al). Deaths from causes which should reasonably have been prevented, including those connected with medical intervention, have been analysed by John Yates at Birmingham, who integrated a limited number of indicators of avoidable mortality into the IACC Performance Indicators (mentioned in Chapter 5). Based on this work, the post-Körner DoH PIs will include mortality rates for conditions such as Hodgkins' disease and carcinoma of the cervix.

The relationships between avoidable mortality, standards of clinical care, variations in health care resources and other important factors are very complex; some of the analyses have been strongly criticised (Carr-Hill, 1987). Nonetheless, such initiatives indicate that mechanisms can be developed for investigation, if there is a will; these are positive signs.

ii. The rich picture

From the relatively unstructured perception of some of the problematic factors in the routine measurement of the outcomes of health care a more structured view is obtained through the production of a diagrammatic 'rich picture' - a cartoon-like drawing which includes important elements of structures and processes, social and organisational roles and cultures which seem to be germane to the problem area. As mentioned in Chapter 2, the picture is not presented in systems terms ; looking for systems here would prejudice an imaginative and wide-ranging treatment in later stages.

The rich picture was sketched to capture some important and problematic aspects of outcome assessment, or the lack of it in the NHS. A reduced copy appears as Figure 7.2. The layout indicates some of the interrelations between interested parties, and to assist in its interpretation, from top left the picture portrays:

- concerned academics in several health services management departments, here in an ivory tower; and including myself seeking to understand my role (it is important for the analysts to portray themselves, to clarify their role);

- people on the Clapham omnibus expressing confusion over their expectations of the NHS;

- the Houses of Parliament in which various MPs and ministers are expressing their views; with the NHS Management Board playing pig-in-the-middle between the minister and department of health;

- Florence Nightingale conducting a ward round in the Crimea, lamenting the limited value in distinguishing between patients as 'relieved, unrelieved or dead';

- in the bottom left hand corner, an example of clinical care which leaves a lot to be desired in terms of treatment effectiveness, patient involvement and informed consent;

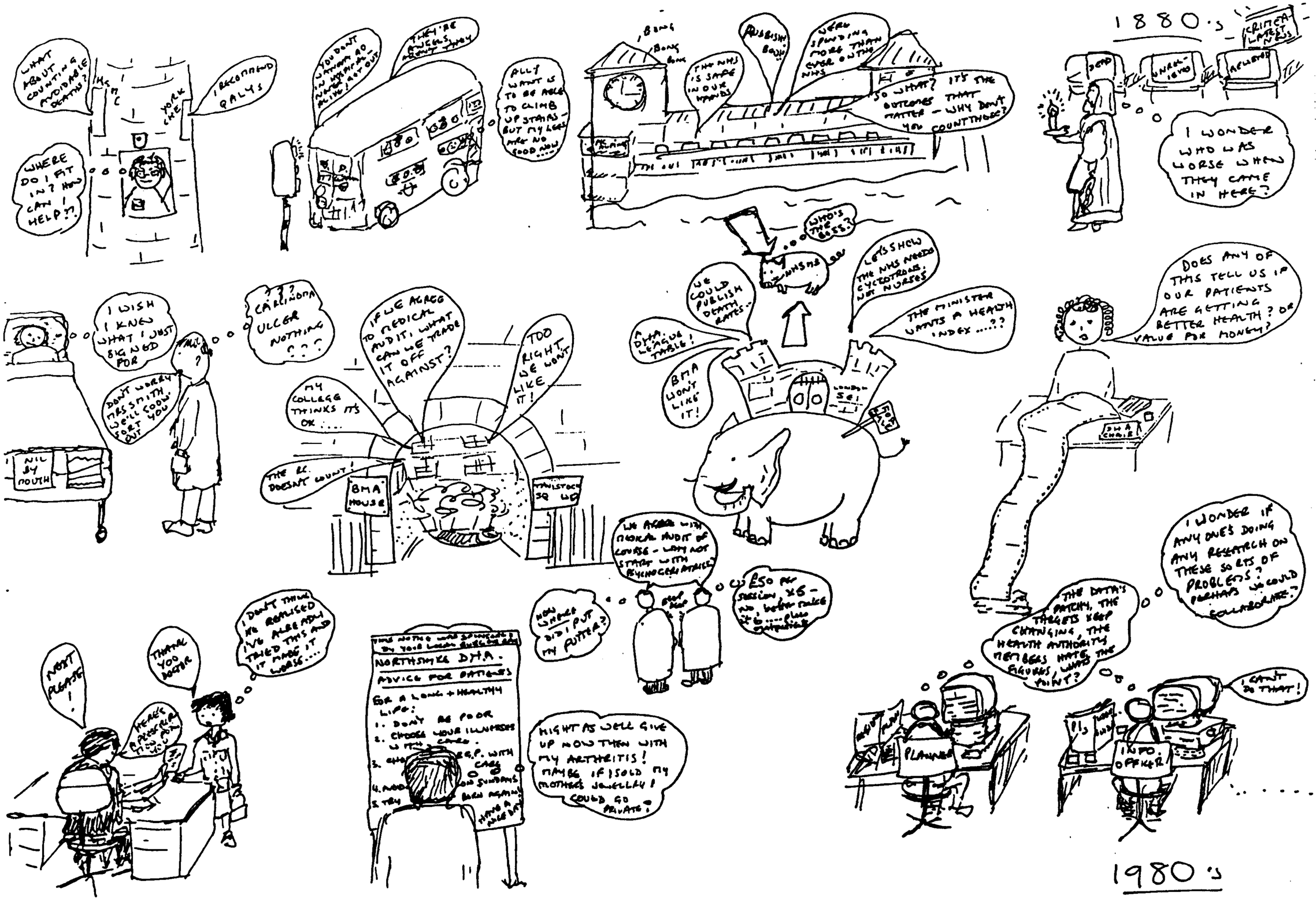
- in the centre, BMA House, from which some views of clinicians about medical audit and other aspects of outcome assessment are emerging; and below them to the right, stereotypical consultants trying to pass the buck;

- right of centre, the Department of Health - until recently located at the Elephant and Castle in south east London - emitting a wide range of of concerns, excuses and ideas;

- in the bottom right hand corner, representatives of local health authorities, managers, planners, information officers and community physicians struggle to make use of data little improved on since Florence Nightingale's day, to see what effects their efforts have on patients, and wondering if someone may be doing some relevant research somewhere;

- and last but by no means least, bottom centre, a putative patient reads some cynical information for patients with an air of resignation.

Figure 7.2 Rich Picture - Problematic factors in outcome measurement.



The rich picture has tried to capture a range of interests, in this case drawn mostly from secondary sources rather than involving members of a client group. Like any rich picture, it is coloured by the view of the analyst (who is depicted in the top left hand corner).

iii. Problem themes derived from the rich picture

The second part of Stage 2 in the SSM is the identification of some problem themes which emerge from the rich picture. They may be categorised as 'issue based' or 'primary task based', and the following themes were identified at this stage:

Issue based problem themes

1. How does one define 'best outcome'?

2. How do doctors make decisions?

3. Why measure outcomes?

4. How should one act on outcome data and information?

5. Should one examine outcomes for individuals or groups?

6. Should data and information about professionals only be used by professionals?

Primary task based problem themes

7. 'Outcome measurement' can measure many things and meet many requirements - is there a need to choose between them?

8. Measuring outcomes - in comparison with what?

9. How can one act on outcome data and information?

10. What sorts of data could be used to monitor outcomes?

Three main 'problem areas' were identified in the thumbnail sketch of Topic 4 in Chapter 2 that outcome assessment involves complex and sometimes unknown causal relationships; that using outcome data presents problems of, for example, validity, relevance and cost; and that the routes to effective outcome assessment may be constrained by power relationships in the NHS and in society. The rich picture has produced a larger number of problem themes. Thus within the SSM process, the problem areas being experienced by those involved in the 'real world', and some of their expectations, are captured through the rich picture and identification of problem themes.

The next stage in the SSM is to identify one or more of these themes for more detailed investigation. This we will return to after two brief subsections to round off Step 2 of our analytical process.

7.2.2 My objectives for the model application

To expand on the purpose indicated in Step 1, my objectives are derived from several roles vis-a-vis the NHS. As an NHS user, sometimes taxpayer, relative of users etc., my concern is both for the best treatment to be provided and for the NHS to be affordable from the public purse (albeit deserving of more resources, but these should be used effectively). As a researcher, I have observed some bursts of activity about outcome measures. I can appreciate some of the problems for policy makers who do want to introduce this, in overcoming the vested interests of many 'experts' in outcome evaluation. I therefore want to obtain a clearer picture of some of the problems in introducing routine outcome monitoring, and perhaps its relationship to other sorts of performance assessment, so I have envisaged a role here of the analysis being designed to assist a civil servant or policy maker who needs to develop outcome assessment but wishes to start with a broad view.

7.2.3 The process and confirmation of the initial choice of methodology

Table 2.2 indicated that the detailed process of methodology choice had produced a strong score for the combination of SSM and Topic 4, a range from 4-6 - the firmest indication of compability obtained of the selected combinations of methodology and context. The factors which produced this score in favour of the SSM for the analysis of Topic 4 included its suitability for dealing with a situation bearing all the hallmarks of a 'mess' rather than a problem (Watson & Watson, 1986), meeting the criteria for a 'soft' approach listed in 2.7.3. Referring to the matrix in Chapter 3, Section 3.5 and Hopwood (1980), Hopwood's situation of high uncertainty both over cause and effect, and objectives, could be seen to predominate, favouring decisions by inspiration (box 4, compatible with the SSM). In the past a hard, quantitative approach might have seemed appropriate, with the emphasis on quantifying outcomes (treating the situation as box 1 in Hopwood's matrix). Now the more complex organisational and professional cultural, and environmental, factors are receiving recognition and the slow rate of progress to date - potentially more sustainable - seems less surprising.

But some slight reservations should be noted too - an underlying wariness that the consensus orientation of the SSM may deny the deep-rooted conflicts of interest and value, and suggest capitulation to the stronger parties. More critical approaches may be relevant if we were taking the viewpoint primarily of patients or their pressure groups rather than civil servants or policy makers.

In conclusion to Step 2, there seems little reason to change our topic/ methodology combination at this stage, and we have ten themes to consider, albeit drawn from a picture painted at a distance from the problem area. The outcome of the feedback check on Step 2, to see that the SSM and models developed within it meet the criteria listed in 2.6.2, is recorded in Table 1 in the Appendix to Chapter 8. We note there the need to be aware of the significance of any conflicting values and interests; later in the analysis we will see how far they could be accommodated. We also note that the SSM relies fairly heavily on subjective data - and (especially in this context) upon the subjective interpretations of the analyst. In this respect the SSM could attract the concern with which Ackoff (1981) viewed 'clinical' organisational development approaches, that they tend to be too subjective. His 'design' approach to problems therefore sought to combine this subjective appreciation with the systematic features of a 'research' approach. In Chapter 8 we will consider whether Checkland's methodology may be regarded as a 'design' approach.

So we proceed with the more analytical part of the diagnosis phase, the construction of root definitions of relevant systems. We will then return to verify the model and note a few limitations before starting to consider the design of an outcome monitoring system.

7.3 STEPS 4 AND 3 - VERIFIED ANALYSIS OF PROBLEM THEMES

7.3.1 Analysis - constructing root definitions

In keeping with a flexible approach to analysis, we have deviated a little within the ten-step process. We have already noted the sources of primary and secondary data upon which the rich picture and problem themes were based. The soft systems methodology automatically provides a comparison between the model and the real world, in the form of the CATWOE checklist (described in Section 2.4 of Chapter 2) in the development of relevant systems and root definitions. This makes a comparison between the root definition and 'reality' as captured in the rich picture, posing questions comparable to those asked in the analysis of Topic 1 in Chapter 4.

While one might need or wish to develop each of the problem themes, some should be recognisably more pertinent than others. The aim of Stage 3 of the SSM is to take the representation of reality from stages 1 and 2 into the abstract world of systems thinking, and identify a number of 'relevant systems'. We want to define (produce a 'root definition' for) such systems which will be relevant to the improvement of the problem situation. Each root definition should be a succinct description of a relevant system, usually in the form of a few sentences starting 'a system to...' or 'a system for...' and incorporating the key elements suggested by the CATWOE checklist.

Of the ten problem themes from Stage 2 of the SSM (our Step 2), four seemed particularly pertinent to the purposes of our enquiry. These are repeated below, with the root definitions developed for their relevant systems. In each case, several versions were produced and one which seemed the most relevant to the main viewpoint of concern here - the civil servant - was refined. The CATWOE checklist was applied, and in a few cases led to minor amendments of the root definitions rather than suggesting the need to start afresh. Where there are several strong and conflicting viewpoints actively concerned, carrying through an analysis for each can be instructive but here we will just note the four relevant systems and root definitions before proceding to develop one in depth.

Problem theme 3. Why measure outcomes?

Relevant system: a system to maximise the effectiveness of the use of health service inputs.

Root definition 3: A Department of Health (DoH) owned system to develop and implement arrangements for national monitoring of outcomes of NHS care as indicators of the action required to ensure that consistently high standards of appropriate medical care are provided by HCHS and FPS throughout England, within available resources and in accordance with national and local priorities and taking into account the skills and personal qualities of all relevant NHS staff.

Problem theme 4. How should one act on outcome data and information?

Relevant system: a system to prevent conflicts of values and interests preventing the devlopment of outcome assessment.

Root definition 4: A DoH owned system for identifying the practical implications of ethical considerations, policy aims and service objectives, for outcome standards; establishing what could reasonably be expected of professional bodies and individual professionals and managers in terms of outcome monitoring and response actions; negotiating with interested groups over implementation and review procedures for outcome monitoring; and identifying and publicising appropriate and legitimate sorts of sanctions for DoH and other monitoring bodies to apply.

Problem theme 9. How can one act on outcome data and information?

Relevant system: a system identifying the preconditions for, and necessary arrangements for the implementation of, a national outcome monitoring system.

Root definition 9: A DoH owned system to identify the responsibilities of central and local NHS actors in:

- establishing criteria and standards for health outcomes,
- reviewing and changing these when necessary to maintain continuous improvement, and with the aim of proactive avoidance of undesirable outcomes,
- securing the minimisation of variation in outcome nationally and locally, for the same health status inputs and taking patients' views into account;

and to take the necessary actions to implement arrangements to meet these responsibilities, allowing for the organisation and actors to learn from the practice of assessment.

Problem theme 10. What sorts of data could be used to monitor outcomes?

Relevant system: a system to develop the collection and use of outcome data.

Root definition 10: A DoH owned system to instigate and co-ordinate the identification of relevant sorts of data, and to assess the feasiblity of collecting and analysing it cost-effectively and to high standards, to meet local, specialty and national/central needs including the monitoring of GP and continuing care, while controlling access to and use of confidential data.

Root definition 9 was chosen for further analysis at this stage, because it seemed particularly pertinent to several relatively un-coordinated recent developments (such as the introduction of avoidable mortality PIs, and expert recommendations for outcome assessment as a means to further short and long term health policy aims). This root definition might make such developments both systematic and systemic. One area of uncertainty was the boundaries between the roles of the NHS management board and our hypothetical 'concerned civil servant'; we could assume the latter to be working for a member of the former group.

So this root definition encapsulates a system which would be needed to enable a civil servant to start to address the complex problem of developing arrangements whereby health outcome data could be collected, analysed and acted upon (in ways which would accord with NHS aims). When the system was established it would involve the relevant groups in appropriate ways and contribute to organisational learning, but the emphasis is on the designing of such a system prior to commencing implementation. It is a definition of the overall purpose of the system. Once we are confident that this system meets some basic requirements for 'completeness', a conceptual model (SSM Stage 4) will be built from the

definition, suggesting the activities which need to take place in a system fulfilling that purpose.

Applying the CATWOE checklist to check that the system defined by the root definition is sufficiently complete, produces the following:

Customers - ultimately, patients; NHS staff interested in self-improvement, and civil servants setting up the system could also be beneficiaries;

Actors - civil servants, (consulting with others - experts, professionals);

Transformation - from a 'desire for an outcome monitoring system' to agreed implementation plans for outcome monitoring showing who does what, why, and what feedback is expected (notice that the emphasis is on what needs to be done, rather than how it should be done);

Weltanschauung (of the system to develop outcome monitoring) - the equity of the NHS, patients have rights, quality of care can always be improved, quality improvement has wider benefits for organisational and individual learning;

Owners (who could cause the system to cease to exist) - DoH / NHSMB / health minister;

Environmental constraints - things which cause outcomes to vary beyond health service control; patients' values; resources for research, development and implementation of system; professional and organisational culture (implicit only)?

Here then we have one strand of the output from Step 4 of our analytical format - a relatively full description of the nature of the 'performance evaluation failure'. We can sum this up as the almost total absence of assessment of outcomes of NHS care - giving rise to concerns such as those of our problem themes. The one which we have selected for detailed development will indirectly provide insights into some of the others, at least from one viewpoint.

7.3.2 Verification and validation

Before proceeding, we should note the results of Step 3 of our procedure - verification, checking that the SSM as a model-building approach meets the needs of Topic 4. As with the previous topics, the 13 verification questions were posed and the results are set out in Table 2 of the Appendix to Chapter 8. The responses do not reveal any new problems.

Departing from the strict order of the ten-step analytical process to fit in with soft systems analysis, we have thus completed Stage 3 of the SSM as far as our hypothetical civil servant is concerned. In terms of the analytical process, our Step 4 - analysing the described topic using the model - is not quite complete. The second output strand from Step 4, systemic reasons for the performance evaluation failure considered here, will be explored fully in the development and use of the conceptual model at stages 4 and 5 of the SSM. We will undertake this exercise after drawing up the conceptual model - Stage 4 of the SSM.

It is Checkland's view that that unlike hard models of relatively simple non-human processes, validation of models - their capacity to represent the phenomena of interest - in soft systems analysis is not possible. 'There are not valid models and invalid ones, only defensible conceptual models and ones which are less defensible! But at least it is possible to check that conceptual models are not fundamentally deficient' (Checkland, 1981, p. 173). He proposes that the capacity of conceptual models to provide useful insights in comparison with real world activities, can be explored through their comparison with other appropriate systems models and an ideal type 'formal systems model' (ibid. pp. 173-7). So again in contrast to our use of the HSM in connection with Topic 1, we will assume that this use of the formal system and other models will meet the needs of our 'validation questions' set out at Section 2.6.3.

It is perhaps worth recalling here the essence of the SSM, which is the separation of the real world from the abstract world of systems thinking. In the real world, systems are human constructs with boundaries and objectives which are personal perceptions rather than tangible things (although of course the systems often include tangible things and the perceptions of individuals often overlap). SSM draws out, in the abstract world, systems which if they existed in reality could be relevant to the problem. This real/abstract distinction is important for obtaining insights from the approach, as ideas for change will be drawn from the comparison (in Stage 5) between reality and the idealised conceptual model. Thus it is not 'real' systems which are of interest, but the juxtaposition of notional systems with real and messy problem situations. This distinction, although less relevant when we are applying harder approaches to essentially quantifiable or more tangible systems (where those involved are consciously seeking to develop systems to tackle specific tasks), is worth bearing in mind. There is often the risk of assuming that 'systems' exist in their own right rather than as human constructs; this reduces our ability to appreciate the interpretations which other people will place on social reality.

Next we will take our (more or less defensible) description of the nature of the Topic 4 performance evaluation 'failure', and makings of the systemic reasons for it, forward to the conceptual model-building stage.

7.4 STEP 5. DESIGNING BETTER PERFORMANCE EVALUATION SYSTEMS FOR OUTCOME ASSESSMENT

7.4.1 Constructing the conceptual model

Although, strictly speaking, we have not quite completed our diagnosis of the systemic reasons for the comparative absence of outcome assessment, this is incorporated in the design phase. Using the SSM to undertake this step of our process involves first constructing a conceptual model, derived from the chosen root definition; and 'validating' this in terms of the formal system model (FSM) and any other useful systems models. Then we must undertake a comparison between the conceptual model and problem situation as captured in the rich picture in order to identify scope for change towards a more desirable situation.

Constructing a conceptual model involves simple procedures, but an insightful model requires considerable iteration and reflection. We take the chosen root definition of the relevant system, in this case Root definition 9:

> A DoH owned system to identify the responsibilities of central and local NHS actors in:
>
> - establishing criteria and standards for health outcomes,
> - reviewing and changing these when necessary to maintain continuous improvement, and with the aim of proactive avoidance of undesirable outcomes,
> - securing the minimisation of variation in outcome nationally and locally, for the same health status inputs and taking patients' views into account;
>
> and to take the necessary actions to implement arrangements to meet these responsibilities, allowing for the organisation and actors to learn from the practice of assessment.

The verbs in the definition are listed. They are taken to indicate the activities logically implied by the definition, and the model which they shape indicates in more detail <u>what</u> the desired system would do. It does not prescribe <u>how</u> to do it; later iterations around the methodology could undertake such in-depth design for parts of the model, or additional techniques could be employed. (This slightly artificial distinction should set limits to the detail for each iteration, and may also reflect the way in which the 'means' at one

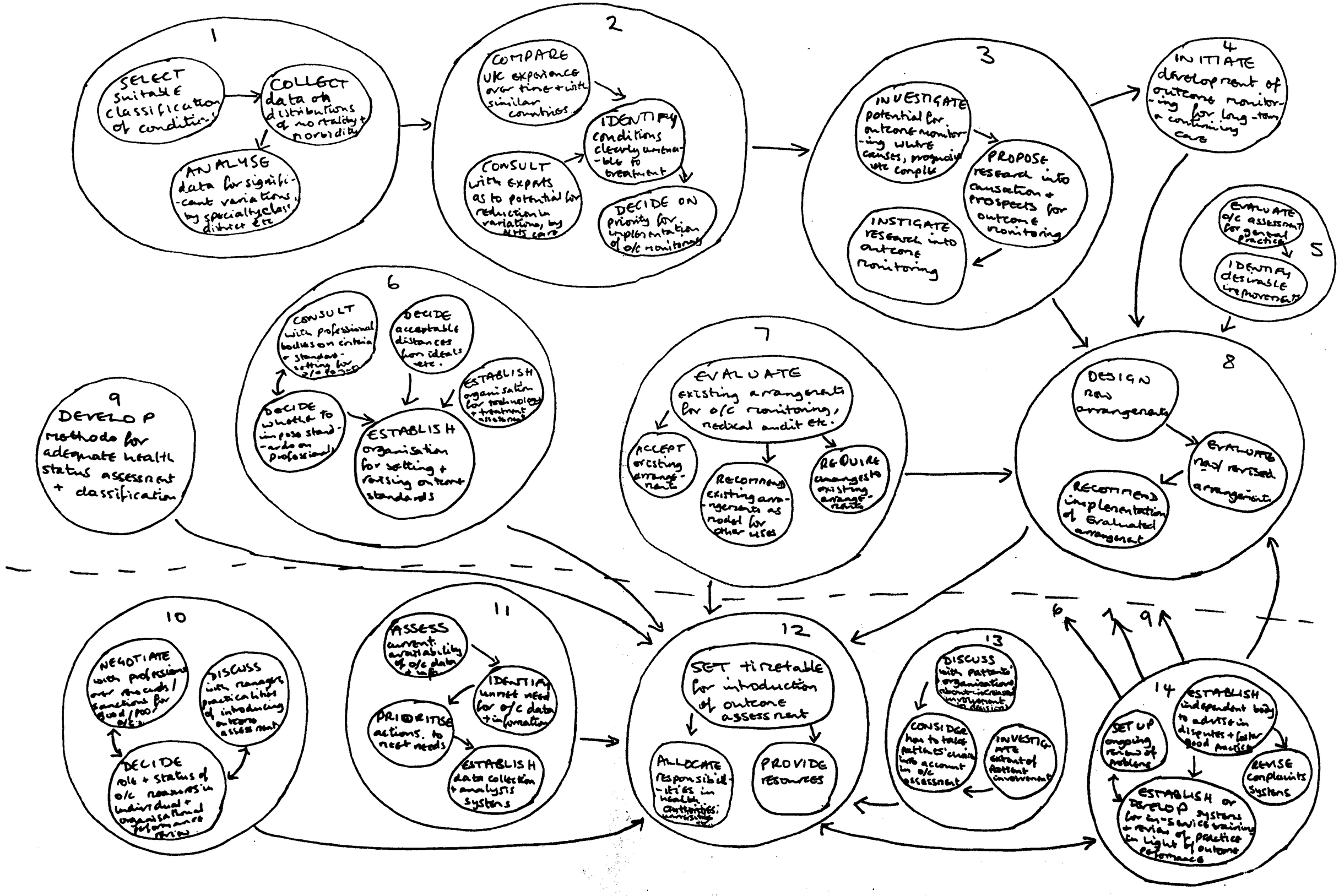
organisational level are the 'ends' at another.) The main verbs can be supplemented by further necessary and logically-implied activities, and ordered in relation to each other such that connections and interrelations are indicated.

Thus Figure 7.3 sets out the conceptual model for the relevant system - 'identifying the preconditions for, and necessary arrangements for the implementation of, a national outcome monitoring system' - as defined above. If that relevant system were to be established in the real world, the root definition logically implies that these activities would need to take place. The 14 numbered 'circles' represent the main activities; many include essential contributory activities.

The model incorporates the assessment of the potential scope both for measuring health outcomes and for using this measurement to improve health status and hospital, community and GP health services. It involves consideration of the practicalities of data collection, and the politics of changing the working arrangements of health professionals and managers. And it embraces the needs of ultimate 'customers' of the system - patients - both in the establishment of procedures and as part of an ongoing evaluation mechanism to ensure not only that outcome monitoring takes place, but also lessons are learned about how to develop its operation. The scope of our relevant system ends when implementation starts, however; for example, the finer details of data collection were more the part of the concern encapsulated in problem theme 10 than 9. While the importance of the maintenance and improvement of the system has been a consideration in the 'design' here, the detail of these activities will require analysis in their own right.

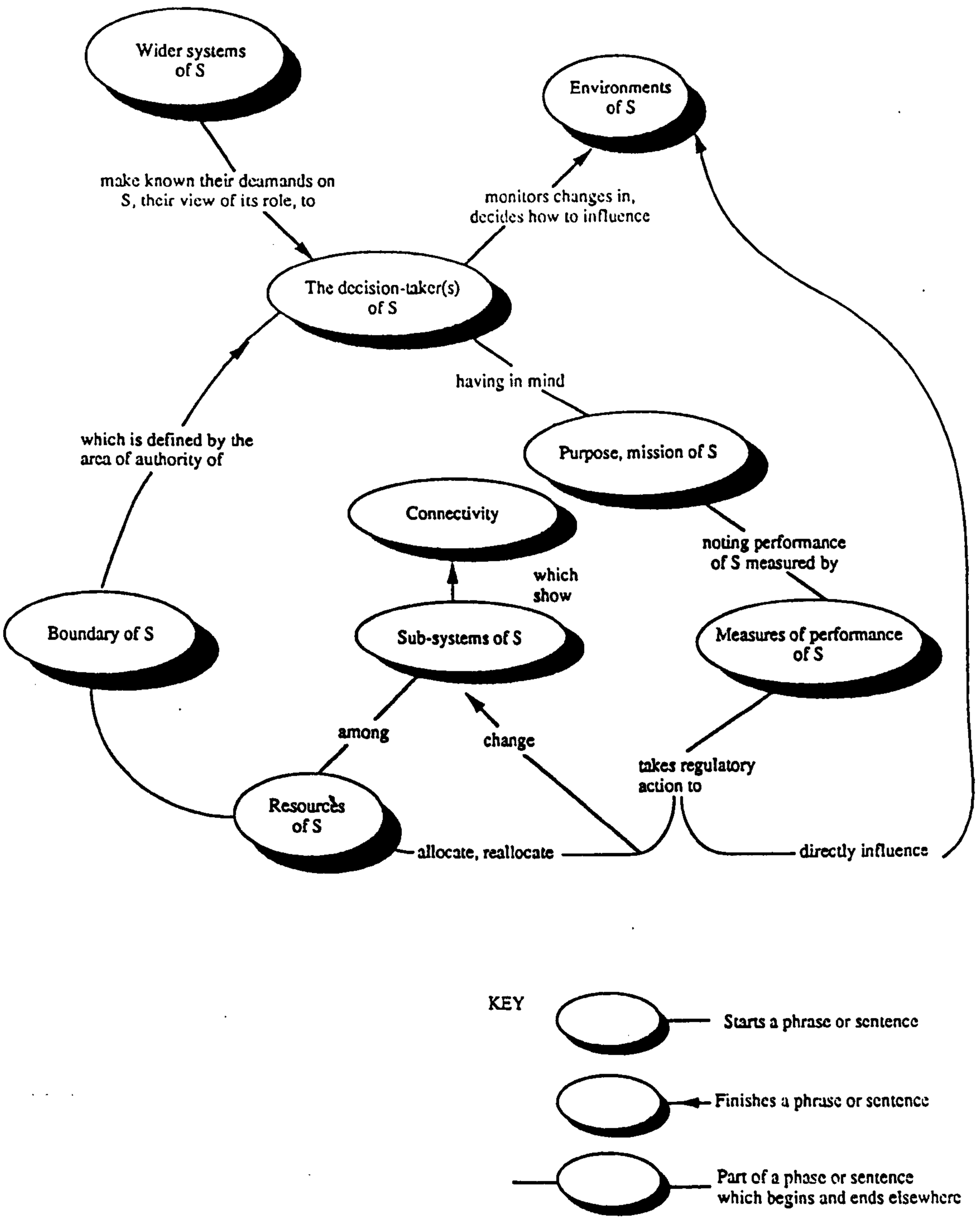
Figure 7.3 Conceptual model of a system for identifying preconditions and arrangements for implementing outcome monitoring.

o/c = outcome



In order that it should provide a sound basis upon which to design changes to the real world problem situation, we will compare Figure 7.3 with the formal system model Figure 7.4 which identifies the necessary characteristics of a purposeful human activity system. Reference here is to the 14 numbered activities or groups of them in the conceptual model (Figure 7.3), and next we will consider the significance of the omission of any of the nine components of the FSM identified by Checkland.

Figure 7.4 The Formal System Model (after Checkland, 1981).



Comparing the conceptual model to the formal system model, when we look for the components of the latter (i. to ix. below) in the conceptual model (activity circles 1-14) we find that all the components of the formal system are present in the conceptual model. Their locations are listed here:

i. Taking the whole of the conceptual model as a system, its ongoing purpose or mission is indicated in 2, 11 and 12.

ii. Whether the system is achieving its purpose will be indicated by the activities in 2 and 14 which indicate criteria for judging the system's performance.

iii. To a greater extent than i. and ii., decision-taking is dispersed through the system, being part of the activities in 2, 5-8, 10, 12 and 14. However, while decisions are part of a variety of activities, they may be part of the same role or set up explicitly to contribute to the establishment or maintenance of the system.

iv. The system contains several sub-systems (3, 6, 7, 8, 14 for instance) mostly being mini-evaluation and informing systems, each with the properties of the whole although they may be implicit here. This particularly applies to performance measures, which may deserve further attention.

v. The components certainly interact, as information, authority and sometimes resources flow between them. In many cases these flows are part of their raison d'etre, and 14 supplies feedback to the system over the long term.

vi. The system interacts with its wider health care system and environment, and interfaces are suggested in 1, 2, 6 and 13.

vii. We could define a boundary between those areas over which the developer of the outcome monitoring system has some control - such as the power to require, on behalf of ministers, health authorities to introduce outcome monitoring systems - and the areas about which they may express their expectations and hopes but are unable to enforce (such as clinical practice under the terms of existing contracts).

viii. The system distributes resources, for example in 10,11 and 12.

ix. That the system is designed to persist for some time, and has the capacity to regain stability after disturbances, is implied by the activities in 14.

The conceptual model contains a few more activities than would ideally be the case, but apart from the query as to the identification of performance measures for sub-systems (para. 1v., the conceptual model appears to be 'complete' enough to use as a basis for comparison with the real world problem situation in SSM Stage 5. The sort of performance measures which would be appropriate for the sub-systems at this level of resolution could be along the lines of meeting all or a proportion of their main objectives (instigating research, evaluating arrangements etc.) by a suitable point on the implementation timetable, such that a complete system is in place by the time health authorities are required to introduce and operate outcome monitoring.

Now we can procede to the stage in the SSM which is at the heart of its capacity to 'design' changes through the juxtaposition of real world and abstract world thinking.

7.4.2 SSM Stage 5 - comparing the conceptual model with reality as represented by the rich picture and problem themes

Checkland sees the comparison stage as embodying 'the basic systems hypothesis that systems concepts provide a means of teasing out the complexities of "reality"' (1981 p.178) - a formative hypothesis for this research. In spite of the limited primary data collected for this topic, comparing each of the activities in the conceptual model to see if they occur in the real world - and if so, to identify their shortcomings - generates a long list. (22 comparisons were made during the analysis, to see if activities in the conceptual model were present in the real world represented by the rich picture and the knowledge it encapsulates.) From this list, significant suggestions for change need to be selected. In an application of the SSM involving 'real' clients, a clearer idea of priorities, practicalities and promising areas would have been obtained during the earlier stages and could readily be refined through iteration and debate. Knowing that since this research began proposals for major change have commenced which will affect outcome assessment directly or indirectly (as the 1989 White Paper 'Working for Patients' renders much of the Körner information system obsolete, initiates managerial changes and widespread medical audit - this latter at least unlikely to be removed if there were a change of government) we will select concerns which may be relatively unaffected by organisational context. This may over-emphasise the somewhat artificial distinction between outcomes attributed to clinical practice and those reflecting wider service effects, but is one way of focussing the analysis at this point.

The selection is further refined by giving priority consideration to those changes, required activities, which seem to be essential for further development at this stage. The aim will be to pick out activities which our hypothetical civil servant would be wise to consider implementing first (imagining they were planning a phased system), because these activities underpinned other developments or would be difficult to change at a later stage (or were otherwise likely to be developed in ways which would conflict with the overall system).

For example, identifying the fine details of outcome data collection systems can be deferred until we have a clear idea of the scope and priorities of the overall outcome assessment system. So here, and in Stage 6 of the SSM, we will concentrate on only seven of the 22 'points for comparison', while stressing that the comparison did reveal many other problems and opportunities which would be pertinent even if the piecemeal development of outcome assessment were to continue.

So the list below refers, in the left hand column, to activities in the conceptual model (Figure 7.4). The numbers refer to the numbered 'circle', and underlined word is the specific activity; the extent to which it is present in the 'real world' is then noted. The right hand column indicates the observations resulting from the comparison between the model and reality - whether current practice seems adequate, and the key changes needed if the 'real world' were to become more like the relevant system (thus making our chosen problem theme less problematic). These changes, a) - g), are examined further in Section 7.5.2.

Conceptual model activity - present in real world?	Major problems and suggested improvements to real world.
1. Collect data on distributions of mortality and morbidity. OPCS registrations include deaths by cause, maternal and infant deaths; central registers of infectious diseases and cancer; General household survey - some morbidity; some local disability data; ad hoc GP morbidity surveys.	a) Most data on mortality not morbidity, on acute hospital rather than continuing care or GP care; limited data below health district, annual and delayed; limited linkage of records. Key need - comprehensive morbidity data and linkage of patient's records; ability to identify clinician and/or department.
1. Analyse data for significant variations by specialty etc. Körner hospital episode system, avoidable mortality PIs, possibly local HA public health annual reports; limited scope to compare time series with HAA or HIPE since Körner; CEPOD, maternal deaths inquiry; epidemiological studies e.g. on cancer, Oxford Record Linkage study.	b) Very limited provision of linked records and information below district level limits scope to identify clinical effects; most data recorded on discharge, limited use for continuing care; limited but growing scope to study re-admissions. Key need - access to data for analysing patterns of care and their outcomes, not just acute and deaths; research to establish causal factors.
2. Consult with experts, ... Identify conditions clearly amenable to treatment. Work by Charlton et al (see Chapter 3) on mortality from conditions amenable to treatment; led to IACC / new DoH PIs on potentially avoidable mortality; effectiveness evaluation - RCTs, consensus conferences, working groups on PIs.	c) Academic debates; limited set of conditions and only for deaths; new DoH PIs on treatments for priority conditions mostly process not outcome; disagreements on cost-effectiveness of priority treatments e.g. CABGs; (how) do clinicians use PIs?

2. Decide on priority for implementation of outcome monitoring. Availability of useful data and information seems to be based on historical accident.

d) Key need - rapid expansion of controlled evaluation of treatment efficacy and effectiveness; where causal relationships and treatment effectiveness clear, choose criteria to reduce overall suffering, not just death rates (economic/ prevalence/ severity?). Where causal relationships unclear, consider research.

8. Evaluate new/ revised arrangements, recommend implementation of evaluated arrangements. There are a few studies of innovation in the NHS, and change - may be relevant (e.g. Stocking, 1985); tendency not to clarify objectives makes evaluation difficult; need not to succumb to most vociferously or frequently-rehearsed argument.

e) Two useful checklists in Long and Harrison (1985, pp.48, 51) on 'evaluating effectiveness studies', and 'key questions for reviewing the effectiveness of a service' (adapted from Clayden) may be usefully adapted and applied here and to other activities. Key need - openness to learning and changing arrangements, include flexibility/ adaptability among criteria for choice; understanding of how clinicians make decisions and how they may incorporate more research data? (e.g. techniques described in OU course D321 'Professional judgement').

12. Set timetable for introduction of outcome assessment, allocate responsibilities, ... provide resources - examples of similar projects include Körner, NHS strategy for information management; tended to be under-planned, under-resourced, underestimated timescale. (Will medical audit be the same?)

f) Key need - co-ordination of contributory developments, clarity over what is not optional and what can meaningfully be phased in, experimented with. Explore ways of linking clinical outcome assessment with action on other factors (other aspects of health and local authority care, domestic circumstances, lifestyle etc.).

14. Establish or develop systems for in-service training etc., set up ongoing review of problems. Systems for disseminating information about good practice, new techniques (publications in medical journals, via teaching etc.) may be too slow, unreliable, not well suited for rapidly changing or less glamorous areas of care; no requirement for in-service training for clinicians, learning closely linked to career ladder rather than in its own right?

g) Key need - to develop climate which encourages continuous learning and self-assessment, development, non-punitive; where time and resources are available; build on peer-review and similar initiatives. Make formal links between professional and managerial activities towards common goals; set up arrangements for continuous assessment of evaluation practices (as well as continuous evaluation per se); establishing outcome measurement systems will not be a once-and-for-all task.

7.5 STEP 6. IMPLEMENTATION

7.5.1 Introduction

For the third phase in our analytical process, we will start with the final two stages of the SSM - Stage 6, 'debate about culturally feasible and systemically desirable changes', and Stage 7 - implementation. Because we are not in a position to enter into genuine debate with clients involved in the problem situation, here we will draw out some suggestions from the comparison of the conceptual model with the rich picture as if we were preparing for such a discussion.

Checkland (1981) suggests that changes can be divided into three types - structure (relatively unchanging, including reporting relationships and organisational roles), procedures (more transient, dynamic, activities and processes) and attitudes (including expectations, values, organisational culture). We will classify the above seven high priority changes into these types, and see whether they appear both systemically desirable (in terms of the root definition and conceptual model) and culturally feasible - in terms of individual and organisational values, 'politics', experiences. (To relate these evaluated changes to the list of conceptual model and real world activities considered above, they are identified below by the letters a - g from the right hand column of the list of suggested improvements in Section 7.4.2.)

This is as far as we can go with 'implementation' of the results of our soft systems modelling, but in the next sections we will look more generally at the outcomes from the modelling, and the SSM process itself.

7.5.2 SSM Stage 6 - feasible and desirable changes

Changes in structure.

a) It is every bit as important to obtain a better picture of illness and disability in the community as a whole, and different parts of it, as it is to have good mortality data. Collecting such data to form population profiles is widely regarded as desirable (and systemically so). But being able to build a complete picture of the treatments and outcomes experienced by individual patients, which when aggregated could reflect on the quality of the work of individual clinicians is less culturally feasible.

b) Taking up this latter point, linked patient records are necessary if we are to obtain a full picture of the factors that contribute to good or poor recovery, for particular conditions or groups of them (e.g. mental illness) and for people with particular chacteristics (e.g. single, in poor housing). Otherwise the full benefit cannot be derived from each stage in treatment (systemic desirability). At this stage in developing the outcome assessment system, it would increase cultural feasibility to establish agreed uses for full data on morbidity and patient outcomes which did not prejudice the co-operation of clinicians. There will be enough problems setting up systems to assess morbidity and to link patient records for 'administrative purposes' to justify leaving aside arrangements to aggregate the experiences of patients by clinician (unless professional groups want to do this anyway) but when data collection systems are designed they can retain the option to do such aggregation when and if needed.

Changes in procedure.

c), d) There are advantages in building on developments which are already in progress and do not show too many disadvantages. Here the ball has already started to roll with 'potentially avoidable mortality' indicators; if these are being used and evaluated they may provide a pattern for similar indicators based on morbidity, and for deaths and diseases with less clear aetiology (systemic desirability and cultural feasibility). There have long been strong lobbies for more economic as well as effectiveness evaluation, and feelings of disquiet too. Despite government concerns about cost effectiveness there is no clear pattern of subjecting those treatments which have policy priority to such evaluations. As cost effectiveness cannot be considered until effectiveness is easier to assess, it is both desirable and feasible to separate these at least until later in the development of outcome assessment.

e) Having noted the essential desirability of designing new arrangements for outcome evaluation in each part of the NHS (hospital, continuing care, general practice), many ideas are likely to emerge and be seized upon if the climate changes in favour of outcome assessment. It will be most important to evaluate approaches systematically in order to recommend the most useful, practicable, reliable etc. It is systemically desirable not to re-invent the wheel or risk the deterrent effect of ill-conceived ideas being hastily introduced, while sustaining the momentum for change. The cultural feasibility of changes may be harder to ensure - it would be helpful to know more about patterns of innovation, and the reasons (perhaps related to power and influence) why some ideas may more readily be accepted than others of equal or greater apparent merit.

Changes in attitude (also involving structure and/or procedure)

f) The 'timetable' needs to be flexible, have several phases and set firm targets. In order that health authorities, clinical departments and (where relevant) professional organisations and committees do not have valid excuses for slow progress, the planning and estimating for the timetable needs to be realistic, not too ambitious but with interim requirements to ensure that work is in hand. This is systemically desirable and, while not culturally popular, may (from the viewpoint of the DoH) need to be made feasible by unambiguously making the obligations of health authorities and professionals clear, (and, if necessary, suitably rewarded). Lessons may have been learned from the experience of requiring health authorities to introduce cervical cytology and breast cancer screening (where the level of priority to be given was apparently initially unclear). The introduction of nationwide medical audit will provide some useful examples to follow or avoid.

g) In order to make the structures and procedures work for outcome assessment, some important attitude changes are implied. For example, the outcome assessment system of the conceptual model is inherently iterative and open; it does not provide simply for some procedures to be established and then to be left to tick over in perpetuity. It is open to influences and needs for further change, and open to inspection by the DoH and others. However, in some ways at present the NHS - doctors and patients alike - has the worst of all worlds, as no-one benefits from long drawn out complaints procedures, increasing litigiousness, inadequate opportunities for in-service training and self-development. Attitude change towards seeing outcome assessment and exchanges of knowledge in a positive light can be fostered through the encouragement of initiatives and champions of change from the clinical 'grassroots', which implies achieving a balance between facilitating, persuading and 'expecting, on the part of the DoH (systemic desirability). (Similar considerations have applied in the development of quality assurance in the rest of the NHS). Thus cultural feasibility will be tested both in terms of the acceptance of change by clinicians and other professionals, and in terms of the role the DoH adopts and resources it (and the Treasury) make available for development and implementation.

So we have now drawn out from the 'abstract world' conceptual model, a number of changes which a system for outcome assessment is likely to involve if it is to meet the needs of the root definition we selected at Stage 3 of the SSM. Our ten-step analytical process through which we are applying each examination of topic and model combinations, suggests that we should check the feasibility and acceptability of the changes suggested by the analysis. This we have done as an intrinsic part of the SSM - indeed, the need for this feedback loop was at least partly suggested by the SSM at the outset of devising the ten-step

process. In the final two sections in this chapter we will take a brief look at the wider prospects for outcome assessment - not just those to be pursued by a hypothetical civil servant - and at the value of the SSM in this context.

7.6 STEP 7. WHAT OTHER PROSPECTS MIGHT THERE BE FOR OUTCOME EVALUATION?

Although it is possible to identify a growing number of outcome-related assessment activities, and the call for their development is a long-standing one, in the light of the relatively low profile of such activities in the annual review process this topic is almost a 'greenfield site' for performance evaluation. Nonetheless, there have been a substantial number of items in the professional and more general health care literature contributing arguments in favour of routine outcome assessment, although they may differ in their suggested routes towards it. A number of references have been given in this chapter and earlier ones. Both major political parties have espoused it, although the uses they may see for such assessment will vary; and the hopes and fears of other interested groups have been hinted at in this analysis.

The main interest served by the chosen viewpoint here - the 'owner' of the system - was that of central government, although the issues which emerged are likely to be relevant to governments of any political complexion. The interested party which, it was implied, posed the greatest threat to the prospects of successfully developing an outcome assessment system, was the medical profession. It was also suggested that doctors would have much to gain by such assessment, if they could only see it - a reflection of the weltanschauung of the hypothetical civil servant seeking to avoid coercion but needing to keep their options open (as their job requires). This in turn reflects my weltanschauung - developed through contacts during the research with civil servants who rarely espoused the desirability of imposing ill thought-out changes on the NHS or doctors, but who were frustrated (on their own behalf and that of their NHSMB or ministerial bosses) at the resistance to change of some professional groups.

If we were to undertake further iterations which adopted different viewpoints, as well as doctors, civil servants and politicians, one really should consider situation from the perspectives of, say, nurses or other carers who are affected (in positive and negative ways) by the attitude of clinicians towards assessing effectiveness. For example, nurses may be placed under considerable stress by caring for very premature babies or the survivors of 'heroic' major cancer surgery - technically successful but perhaps not always humane. (See the discussion in Chapter 3 of the work of Jennett, 1984, 1988). We should also examine the issues from patients' perspectives - in plural, because there are clearly ranges of personalities and conditions involved. Not everyone wishes to know what their chances of recovery are, and how these chances are affected by the doctor who attends them - particularly if they have no real choice. Equally, many patients are reluctant to admit that changing their own behaviour will improve their prognosis far more than the best doctor can. Adopting such perspectives effectively requires specialised information about psychology and personal constructs.

Thus so far we have considered the prospects for the development of routine nationwide outcome assessment, in the foreseeable future, through the eyes of an imagined civil service client. Our views have sought support through reference to existing or emerging policy and practice and a small part of the more theoretical material on the sources of outcome data and the like. In future it may be possible to test out a selection of views drawn out by applying the SSM, on people involved in health service evaluation in a variety of ways. While the sorts of changes and issues which have emerged (and would be likely to in further iterations), may not seem startlingly original, they will at least be supported by a holistic examination of the problematic context. They will also have been arrived at through a process designed to bring systems thinking to bear on real world practice in a relatively accessible way.

The final section here considers some methodological implications in a little more detail.

7.7 STEP 8. EVALUATING THE USE OF THE SSM FOR TOPIC 4

In Section 2.6.4 of Chapter 2 we noted seven questions which could help us to evaluate the application of each systems model to our chosen topic. In the final chapter we will give more consideration to the success of the overall approach and whether different model/ topic combinations could be of more or additional value. Here we will pose the seven basic questions of the SSM/ Topic 4 combination before briefly examining the relevance of some criticisms of the SSM mentioned in Chapter 2 to the application in this chapter.

1. Does the model shed enough light on the problem areas identified for the topics (here incorporated in the problem themes), to be worth the effort?

Subjectively, I believe it has drawn out a wider range of important issues than I had expected to address, but placed the possibilities of introducing change in a more realistic/ pragmatic light than I might otherwise have seen them. We could test this more objectively by exploring the topic using the SSM, with other interested people.

2. Does it shed light on the original key questions, colloquial concerns, noted in Chapter 1?

To both the colloquial and research questions, it has indicated that regardless of political will the problems involved in developing reliable outcome assessment are considerable, and varied. The potential for quantification is increasing, but in some cases this sidesteps the questions of the values which the NHS' aims embody and as such may be little improvement over input monitoring.

3. Does the model include all elements of the system deemed to be important, and can omissions be justified logically?

Given that no model can practicably include everything, the SSM depends first on a thorough approach to capturing the problem situation, and provides many opportunities to develop the rich picture, root definitions and so on. Indeed, it is unlikely that an application of the methodology where there was no iteration would produce many new insights; here we could usefully have iterated far more. The use of the formal system model and other appropriate ones provide a check on viability and completeness, and again it could have been useful to explore some aspects of the problem situation in more depth through involving other models.

4. Has the model operated at an appropriate level of complexity, detail and hierarchy?

Again subjectively, these levels seem appropriate for the present analytical context. The model and its outputs explicitly contain subsystems, and we consciously chose to apply it with the viewpoint of a hypothetical client at a particular level in the NHS hierarchy. More detail would have been welcome in places, and may have led to more realistic recommendations, but this could easily be remedied if we were to take the analysis further.

5. Has the model reflected accurately enough the internal and external factors which affect the system's output?

The model certainly should be able to reflect these factors accurately as far as the modeller perceives them - they are captured in the rich picture, and developed throughout the investigation. Effective dialogue with clients in a consultancy situation, and more iterations, can build an increasingly detailed picture.

6. Has the model indicated in a definable way what would happen if one did something specific to the system of interest?

Not in any great detail, or with confidence here; both because of the remoteness of the analyst from the context (using mostly secondary data), and because the focus in this iteration has remained at the level of 'whats' rather than 'hows'. To explore the effects of the suggested general changes in activity, we would need to take some individual groups of activity and conduct a more detailed analysis suggesting how the changes would operate. We could do this by bringing other sorts of model into the SSM having drawn up the conceptual model. We have speculated about the sorts of new output and outcome there may be, but not drawn firm conclusions about detailed practice.

7. Are the conclusions logically and rationally derived from inputs to the modelling process, as opposed to unsubstantiated analyst bias?

Perhaps surprisingly, there seems as much logic and rationality in this soft systems application as in the overtly rational hard systems analysis of Topics 1 and 2 in Chapters 4 and 5. The 'analyst bias' (unsubstantiated or otherwise) is made explicit right at the start of the SSM by including the analyst/ observer in the rich picture. The soft approach continues to force examination of logical derivation at several points, while accepting that the model will probably not have been right first time and encouraging iteration incorporating new insights.

So the SSM scores well on these seven counts. In Step 4 we noted two limitations of the model as applied here, and in Chapter 2 several general criticisms were introduced. We have tried to deal with the limitation of predominantly proxy or secondary data at several

points in the analysis, and can conclude that we have probably not missed any really important issues which invalidate the analysis at this stage. Any analysis such as this will inevitably be less comprehensive than that of a group of analysts with unlimited access. However, if in future we bring in some more views of those directly involved, we can expect many more insights including some surprises.

The second limitation raises the key criticism of the SSM - that is has a functionalist bias, is well suited to supporting the dominant parties and protecting the status quo. This application has illustrated that the notion of a dominant party/ coalition is not always a cut-and-dried distinction. In our choice of hypothetical client we have indirectly supported one dominant party in what could be seen as an attack on another. We have also been aware of the vulnerability of the civil servant - perhaps a person blinded by false consciousness but I think not. We have, however, almost entirely neglected the viewpoint of those whom the NHS is supposed to serve, but so often makes its victims - the patients and their families. We have only considered their role as components in a subsystem to be manipulated by our client - an improvement on ignoring them completely perhaps, but not much better. We have also ignored the vast number of non-clinical NHS staff who are affected in many tangible and subtle ways by the attitudes and practices of doctors.

However, the SSM provides as many opportunities to consider these viewpoints and interests as it does those of the dominant parties. Like history in general, their interests are less well documented, and to explore them we would clearly need to seek more primary data. The methodology used for patients or nurses as clients could produce tactics and strategies for change in their interests just as it has produced tactics and strategies for civil servants and the DoH in this analysis. That nurses and patients may have less power to implement their desired change at least through the official channels (paradoxically in view of their numbers and our democracy, if one takes a functionalist view), does not seem to me to be the fault of the SSM.

This leads to the criticism that the methodology supports the status quo. Clearly here we have been seeking ways to initiate and manage change, and potentially fairly radical changes in some senses. Short of seeking constant revolution, inevitably the outcome of the SSM is likely to be some sort of new equilibrium, but the magnitude of changes and length of periods of stability are entirely the products of the inputs to the model.

We will return briefly to these criticisms in the final chapter. Here we will conclude that in the given context, with limited data and having chosen a powerful client, we nonetheless tried to develop an outcome assessment system which by its nature and very existence should produce benefits for patients. We also tried to devise a system which met some more general needs for performance evaluation of the NHS as an institution.

CHAPTER 8. APPLYING A SYSTEMS APPROACH TO NHS PERFORMANCE EVALUATION: CONCLUSIONS AND PROGNOSIS

8.1 INTRODUCTION

This final chapter has two main roles. First, we will complete the analysis of the four performance-related topics by summarising and assessing the outcome of each analysis, Step 9 of the analytical process. This will involve noting the strengths and weaknesses of the combination of methodology or model with topic, and indicating where a different methodology could provide greater or additional insights. The results of three of the feedback tests carried out during each analysis - checking against the characteristics of a good model, verification and validity tests - are set out in Tables 1, 2 and 3 appended to this chapter for reference. Each set of conclusions leads into a consideration of potential approaches to analysing one of the remaining four topics from the original eight. Each analysed topic has been 'paired' with one of a similar type of context or which invites the use of a similar methodology.

The second task of this chapter is to assess the overall approach (Step 10). Did it work? How well did it work? How might it be improved? We will reflect on the most important of the analytical 'devices' that have been used at various points in the thesis, and draw some more general conclusions about the role that systems approaches have been able to play in exploring planning, performance, policy and politics. Finally we will assess how far the objectives for this research have been achieved, and the scope for development of the approach for further systems inquiry into the evaluation of health service performance.

8.2 STEP 9 - RECOMMENDATIONS FROM ANALYSES

8.2.1 Topic 1. Making and implementing strategic plans

At the start of the analysis of Topic 1 some high expectations of the developing NHS planning system were introduced. However, we found that the definition of goals and their achievement was not wholly fulfilledby the planning system as it operated in the late 1980s. From a planning perspective, there were two kinds of problem in implementing the stategic plans made for the period 1984-94. Technical problems included making the best use of available (and sometimes limited) data to establish realistic contributory short-term targets, and coping with internal complexities and unpredictable changes in patient needs (and demands). There were also problems related to organisational culture, and organisational and party politics - changing requirements arising from central policy, some internal tensions between regions and districts, and low commitment (from consultants and other staff) to plans, leading to resistance to change. The deviation of spending or activity levels from intended 'strategic pathways', and public or staff objections to plans, sometimes reflected lack of attention to implementation at the earlier stages in the planning process.

If plans reflect routes towards desirable objectives, their effective implementation is important for NHS performance. So our aim was to see how the formal planning system could be adjusted to improve the prospects for implementation, starting with a model which seemed congruent with the NHS' recent history of rational planning but which balanced the need to maintain a wide view with requirements for attention to detail. However, we also observed that strategic plans had not always identified clear objectives; nor were objectives debated and clarified at regional or district level for all aspects of short term plans, through which strategies are implemented. Six common problem areas including two related to the theory rather than the practice of planning, were the focus for analysis.

To identify ways in which systems thinking could help improve some of these problematic aspects, we adapted the hard systems methodology by incorporating features of Ackoff's 'design' approach to planning, and some of the attributes of effective strategic planning identified by Foster et al. Thus 'enhanced', the HSM was used like a blueprint against which to compare NHS planning practice, drawing mainly on examples from Trent RHA. The main improvements outlined at Step 7 in Chapter 4, which a planning system modelled on the enhanced hard systems methodology was designed to secure, were:

- greater commitment to planning processes and outcomes, through dispersal of planning and participative practice;

- greater awareness of differences in the values, interests and objectives of stakeholder groups, and therefore potentially more equity;

- an improved capacity to monitor and control plan implementation through: the explicit identification of objectives; use of measures of performance; modelling of options and of the effects of changing internal and external conditions;

- a strengthening of the features that have been found to contribute to success in strategic planning and implementation, on which the NHS was weak;

- the incorporation of planning into the wider practice of organisational learning, and a more holistic appreciation at all levels of the needs of staff, patients and the community which the organisation hopes to satisfy.

The main objective of such changes was to enable 'planning', as a process, to lead to plans which were both widely desired and able to be implemented; this could involve making assumptions about the world which are very different from those of rational comprehensive planning. Technical improvements alone can have a limited effect as many of the 'problems' which were observed are not amenable to wholly rational resolution. The work towards a corporate strategy for the NHS referred to in Chapter 4 canvassed the views of some NHS managers. Their reponses suggest that the sorts of changes considered here might be be positively received, as the managers emphasised: the strength of teamwork in the health service; the need to improve feedback and reduce tensions between management and ministers; and most significantly the need for management and planning processes to be developed in order to bring staff groups into plan development and increase their sense of ownership and commitment.

The 1989 NHS White Paper 'Working for Patients' suggests that in future short term planning will be based closely on 'business planning', directed towards the achievement of strategic objectives (although the future of strategic planning per se was not made clear). While little information is yet available about short term planning, an example of a pilot application by management consultants is described by Lister and Delaney (1989). Comparing their description with our HSM-based methodology, there are many similarities including an emphasis on process, iteration, environmental awareness (although with a market focus) and feedback. So our model looks robust enough to survive the changes ahead.

Making performance monitoring into a workable reality, the second of the OHE's hopes for NHS planning, has perhaps been more nearly fulfilled. Gradually the links between

planning and review have become stronger, assisted by other developments including the use of information technology. This aspect of performance review formed part of the subject-matter for Topic 2, to be assessed in Section 8.2.2. Next we will pick up some important points about the use of the HSM which arose during the analysis, and see if they are serious enough to imply a need for a different methodology or model.

Reflections on the analysis.

Our initial choice of the HSM was influenced by its similarity to rational comprehensive planning, so it would feel familiar to planners. We then augmented the HSM with some features aimed at improving on the existing planning methodology, bringing it closer to a mixed scanning structure based on 'design' processes. We did note a number of points at which the views of stakeholders (in and outside the NHS) could be taken into account, but suggested that this might be a stronger feature of other systems methodologies. First, could Espejo's (1987b, 1989) approach to applying Beer's viable system model, which commences with an exploration of the views on organisational identity held by different stakeholder groups, offer further help? The process Espejo describes is primarily devised as a pre-diagnosis tool, to be followed by the diagnosis and possibly design of organisational structure (which Chapter 6 suggests is the main strength of the VSM). It is similar to the use of 'relevant systems' in the soft systems methodology (SSM) or the use of objective trees in Stage 3 of the HSM. Although planning can involve the design or re-design of organisational structures, and structural changes may be needed before more effective planning can occur (instances when Espejo's approach could be valuable) our concern here has been primarily with the planning process. So we will not reject the HSM in favour of the VSM even as augmented by Espejo, but note the potential merits of his approach in other circumstances.

The enhanced HSM has been designed to take into account many of the features of complex organisational activities which make Checkland's SSM valuable. While it seems both impracticable and unnecessary to consider substituting the SSM for our HSM-based planning methodology, on a number of occasions planning has been observed to founder on rocks within the NHS, or barrier reefs between planners and external objectors. Such conflicts reveal differences of values as well as interests, or arise from the complexity or novelty of the planning task. So within strategic and short term planning there may well be occasions when the most appropriate systems approach is the SSM. While we will not reject our hard approach to the overall planning system, we will be aware that ways of identifying and taking into account different viewpoints may be very necessary. The incorporation of the ideas of Foster et al. and Ackoff has placed an emphasis on participation, which should make the role of conflicts and their reduction explicit within planning. Conflicts of value however may need to be addressed at higher organisational levels.

Discussing model choice in Chapter 4, in terms of Hopwood's matrix we felt that there may be a tendency for planning decisions to assume conditions of higher certainty over objectives and cause and effect relationships than in fact existed. Further analysis has confirmed this; some of Trent's 'coherence models' or projections of manpower, activity and finance for example convey a spurious degree of certainty. Health service planning has to cope with high and low certainty on both dimensions, and failure to recognise these uncertainties can lead to inoperable plans. Rather than presenting planning as a way of eliminating these uncertainties our HSM-based approach should make it legitimate to admit them and choose techniques accordingly. Sometimes plans are used to exploit such uncertainties by various parties. For example, objectors to a proposed hospital closure about which it is known a health authority is divided, can shift the use of plans from computation to bargaining by exposing the uncertain objectives. While some mistakes and manipulation are an inevitable part of NHS life, time and energy are used in denying conflicts, uncertainties and politics in the context of planning.

One of the aims of the analysis of Topic 1 was to help our hypothetical planner to prepare for the next strategic planning round and, assuming they had some say in the methodology adopted, to incorporate lessons from making and implementing the current plan. In the next subsection we will take the themes of the analysis in Chapter 4 and above - uncertainty, robustness and politics - and consider very briefly some ways in which an analysis of Topic 5 might draw on our experience with Topic 1.

<u>Lessons from Topic 1 for the analysis of Topic 5 - Planning for uncertainty and complexity.</u>

Each of the four topics which have been analysed in depth, will be paired with one of the topics not yet analysed, as if to commence the analytical process by building on relevant experience. Primary and secondary material was collected for these four topics too, although in most cases less than for the topics which have been analysed.

Topic 5, as the thumbnail sketch in Chapter 2 indicated, explores ways of increasing the robustness and flexibility of NHS plans, so it is logical to link this with Topic 1. We noted a number of problems and tensions in strategic and short term planning, to do with uncertainties in the health service or from its environment. Some, like population trends, are more amenable to forecasting with a degree of confidence than others such as medical technology or inflation. Flexible plans are ones which can cope with the unexpected without too many difficulties, and conversely can take advantage of unforeseen opportunities. By robustness we mean the amount of useful flexibility for the future which a plan made now preserves - the range of acceptable options which it keeps open. These concepts have been developed to the point that quantitative tests can be applied to plans to compare their robustness (Rosenhead, 1989a), and a well-documented health care example can be found in Best, Parston and Rosenhead (1986). (For an early analytical account see

Rosenhead, 1980a, b). Again the focus is on the process of planning, participation, satisficing rather than optimisation, and a recognition of the role of politics (within the organisation, and in the environment).

While the problems which we selected to explore in Chapter 4 were symptoms of uncertainty, and showed signs of inadequate flexibility, it was tempting to respond in the rational comprehensive way and call for more detailed plans rather than less. The worrying lack of detail in Trent's 'coherence models' for the latter part of the strategic period was worrying precisely because of the emphasis placed on the achieving the projected levels of finance, activity and manpower for earlier years, and the assumptions made in extrapolating trends in a linear way. Although the desired trends were not being achieved, the approach did not seem to be to look at the range of options which the current and short term future position provided, but to look to the original desired path and see how difficult it would be to get back onto it.

Looking towards the next planning round, how could our HSM-based approach incorporate these considerations? Lack of NHS real-world examples - only Riverside health authority was known to have actually based its strategy on a 'robustness approach' at the time of the fieldwork for this research - means we must speculate. First, is our use of mixed scanning as a preferred planning model adequate? Rosenhead (1989a) considers not - the omission of fine detail does not necessarily lead to flexibility. But our methodology can incorporate robustness analysis both as part of its 'philosophy' - not trying to deny politics or pretending to know the future - and at Stage 6 in the enhanced HSM process, where modelling of options takes place. Consideration of possible futures or 'scenarios' can also be part of earlier stages when objectives (desired future states) are explored, and related to what is known about the future. The introduction of the concepts of robustness and flexibility can be quite contrary to the experience and culture of rational comprehensive planning, so like other forms of organisational change it needs careful handling in its own right. Simply telling planners and management teams to accept certain scenarios and the 'sub-optimisation' which planning for uncertainty seems to involve, can be strongly resisted. However, where the scenario approach was taken by Riverside, they drew on the experience of planners outside the NHS, and 'experts' in organisational change (Wack 1986; Ferlie and McKee, 1987; Best, Parston and Rosenhead 1986).

Initial thoughts on Topic 5 suggested a variety of potential models and approaches suited to coping with uncertainties which had a political component (and hence implied potential value conflicts). These included soft systems methodology, the emerging critical school of systems thinking, and a range of 'soft OR' approaches to planning and decision making which were noted in Chapter 2, Section 2.6.2. A full analysis of Topic 5 should explore all of these possibilities, but the techniques and values embodied in the work of Rosenhead and Best et al appear to be a promising initial choice, linking as it can with our HSM-based approach.

8.2.2 Topic 2. Controlling performance through structure and process

Our analysis of Topic 2 brought together control and organisational learning in a double-loop model, which we applied to contexts at several points in the NHS hierarchy to illustrate how feedback on organisational processes could be combined with reflection on objectives. Whether seeking primarily to meet the needs of patients or 'internal customers' (including oneself), long or short term, the model provided a framework for checking not only that current objectives were being achieved, but also that the objectives were still appropriate to their intended needs. An application of the model at a relatively 'high', abstract level could suggest major qualitative changes, new ideas to be explored; at the lower level the model is a straightforward cybernetic control loop which recognises the part which higher levels (the second loop) play in shaping its performance.

We then focussed on problems being experienced by Southern Derbyshire DHA as it attempted to control acute hospital activity levels, and expenditure, in order to achieve its strategic objectives. These problems included:

- 'excess' acute activity and spending, but performance indicators suggesting scope for higher activity and greater efficiency

- disputed targets

- the need for more effective use of management information systems, and perhaps more frequent monitoring

- knock-on effects on each unit, of changing activities in other units

We noted views and suggestions for action from the regional health authority, the district, and one of its acute units - Derbyshire Royal Infirmary (DRI); plus some sources of pertinent secondary material. Features of some of these problems were mapped onto our basic double-loop model, suggesting some systemic weaknesses.

This focus on DRI led into a more detailed assessment of the unit's approach to living with and capacity for resolving such problems - particularly its novel Annual Review Process - and suggestions for change. We wanted to see if these changes could improve the effectiveness of managerial control, and as well as examining their impact in terms of the double loop model we checked that the suggestions were appropriate for the type of control context, in terms of Hofstede's typology. As a result, the suggested changes for DRI included:

- encouraging wider use of existing management information and fuller understanding of dynamics including performance indicators (not just collecting more data);

- clarification of acute service priorities, exploration of interconnections and identification of interested parties;

- clarification of the desirability of improving 'efficiency'; and

- the need to reconcile targets to the unit's capacity to attain them.

Most of the suggestions were a step or two removed from direct patient care, designed to shape the decision-processes of managers and clinicians leading to that care. This emphasis on process rather than structure marked a deviation from our original Topic 2 task, as it became apparent early in the analysis that if the organisational processes were strong enough, weaknesses in structure - organisational and physical - could be overcome. (This in part was the strength of DRI's ARP.) Finally an application of the model to structure an enquiry linking performance indicator data and a double-loop problem - controlling services for children with asthma - was outlined.

<u>Reflections on the analysis.</u>

The model proved to be a flexible one. Applying it to problems on a continuum from learning to control, showed that it could cope with messy elements present in the sorts of contexts considered. However, while it could almost always provide a useful framework for an individual analyst/ observer, in highly value-laden situations it may not be the most appropriate tool to use in helping others to resolve conflicts, although used in the learning mode it may expose hidden conflicts. Any model which can be used to improve control over human activity systems has coercive potential; pragmatically, by drawing attention to the inputs required to sustain excessive control, this one at least may reveal its costs as well as its benefits. A more relevant concern is its underlying unitary assumptions; even used for double-loop learning the model may only prompt a search for new objectives for the dominant viewpoint.

Our initial appraisal suggested that circumstances pertaining to each of the cells in Hopwood's matrix (described in Chapter 3) were likely to be found in this investigation, and this was indeed the case. While differences between the objectives of region, district and sometimes unit were revealed by their arguments over performance and targets, there was less uncertainty over objectives than over causes and effects. Perhaps the greatest danger is an inadequate appreciation of this; but those at DRI seemed less likely to assume inappropriate levels of certainty than the arguments and performance of those at district

sometimes suggested. They used approaches similar to those in our model to monitor and explore, within the ARP, the consequences of different courses of action.

There are many ways in which this model can be developed further, for use in each of the phases of analysis - diagnosis, design, implementation. These could include quantitative versions using its cybernetic features more fully; clarification of the idea of a continuum of modes of application, from control to learning; the incorporation of feedforward control; use even with poor data to explore 'what if...?' questions. However, there are merits in having a simple model which would be lost in an 'all singing, all dancing' model, one being accessibility to a wide range of users or clients.

The uses outlined in Chapter 5 suggest that the double-loop model has considerable potential for acceptance by managers in the new NHS culture; uses with other groups would be an effective way of testing the extent of its unitary assumptions and dominant-party orientation. Lewis (1989), approaching similar contexts (the evaluation of social action programmes) from the soft systems perspective, describes a 'double learning' model of evaluation as a representation which involves stakeholders and escapes the accusations of functionalism levelled at the SSM, much as our double-loop model seeks an alternative representation of the 'hard' control model. But can such re-orientations of essentially unitary approaches really address conflictual situations in an emancipating, or at least egalitarian way? To explore some of the issues raised in searching for a systems model for use in Hofstede's 'political control' situations, we consider next how the experience of analysing Topic 2 has contributed to some thoughts on tackling Topic 6, the politics of health.

<u>Lessons from Topic 2 for the analysis of Topic 6, The politics of health.</u>

The 'politics of health' are difficult to analyse. Few annual review items could be identified with them, and yet they underly most of the NHS issues which are all around us, on radio and television, in national and local newspapers - even in the high street. The (current) ambulance service dispute is not just about the potential inflationary impact of their salary claim; it is also about perceptions of the value of skills, whether they be paramedical or the less obvious ones of sustaining a cheerful countenance after a long shift for relatively low pay. It is also about the relative power of central government and public services, industrial relations policy, individual and collective views on the priority to be given to the NHS in the competition for resources. These are issues that have been vociferously debated under Conservative and Labour governments alike. But the artificial boundaries which we placed around the four P's - performance, planning, policy and politics - seemed to assume that while routine performance monitoring and evaluation could be value-neutral, debates about NHS performance in the political arena were inherently value laden. Are there

aspects of the politics of health to which systems approaches, with their underlying rationalism, can nonetheless contribute?

In the thumbnail sketch of Topic 6 in Chapter 2, a list of contexts in which the analyst might be likely to turn away from systems approaches was presented. With hindsight, each would fall into Hofstede's category of type 6, amenable to political control and unsuited to cybernetic forms of control. Looking again at that list which goes some way towards capturing the nature of the politics of health, while we might imagine exploring some of the issues using our double-loop learning and control model this would be unlikely to reveal many ways forward from the stalemates listed in the sketch. In Chapter 2 we noted, considering Jackson's 'methodology for methodology choice', that it was difficult to identify systems approaches suitable for coercive contexts, and several on our list reflect very uneven capacities to exercise power in providing or obtaining health care. Even 'soft' methodologies like the soft systems methodology can more readily be used to the advantage of the stronger party or those defending the status quo, than to the advantage of those already weak.

Throughout this thesis we have adopted the perspective of relatively senior members of staff in the NHS - managers or planners - or a civil servant, those with a vested interest in maintaining the status quo or pursuing change towards objectives strongly influenced by political demands. What about the perspective of the nurse, or the patient and their family? In Chapter 1 we noted the limited opportunities given to patients to influence either local services, or national policy; staff may affect the former but have had little impact on the latter. The past few years have seen a burgeoning of community, patient, self-help and other interest and pressure groups concerned with health and the NHS, the sort of groups which 'community OR' practitioners might hope to assist. Do they have suitable tools and methodologies to help such groups in the uneven struggle to tilt the balance of power over health care in their favour?

I would argue that while a number of the methodologies and models described and applied in this thesis could help weaker groups to clarify their objectives and resolve some uncertainties about causes and effects in their problem-situations, they are not adequate to tackle political power struggles. This applies almost equally to struggles to keep a clinic session open or stop pollution from a local factory, as to struggles against cigarette advertising or to increase the relative size of the NHS budget. Further, Chapter 1 suggested that health care per se played a relatively small part in shaping the health status of the population. In Chapter 3 we noted the persistence of inequalities in health between social groups, which the NHS could only do a little more to reduce although equity is one of its goals. Systems may have a part to play in identifying the multiple causes of such inequalities, just as it can suggest routes to performance improvements; but to produce equity in health and not just health care requires a political approach. Rosenhead (1989b) sees the seeds of potentially emancipatory political tools among the approaches that we

included in Chapter 2 as critical systems thinking, soft OR, SSM and some others. Where Topic 6 is concerned I am unsure whether such potential could or should be realised.

8.2.3 Topic 3. Improving the quality of NHS care

In spite of the increasing emphasis on performance assessment in the NHS, some qualitative dimensions remain relatively neglected. The DHSS has tended to concentrate on efficiency and economy, resource allocation has had some effect on equity and access, but acceptability and effectiveness are often still regarded as difficult to measure let alone improve. The main challenge with Topic 3 was to find a systems model or methodology to help strengthen the growing number of 'quality of service' initiatives in the NHS which were addressing these dimensions, by broadening awareness about quality and suggesting practical action.

Figure 6.1 indicated some of the factors which influenced the effectiveness of quality improvement activities in the NHS. Examining the features at the core of 'total quality management' approaches found mainly in the commercial sector, they appeared to address many of the areas which NHS quality initiatives had found problematic, such as instilling organisation-wide responsibility for quality. So the aim was to design the structural arrangements which were conducive to the introduction of a set of key TQM features at the local NHS level. A 'TQM system' was mapped onto the VSM, drawing out the contribution of its components to viability; and then one particular hospital example was examined. The hospital-wide quality assurance model being developed at St. Mary's Hospital, Luton, was described in viable system terms using the general TQM system as a 'blueprint', which indicated that the main structural sources of viability were present. But not all of the TQM features were fully in place, and a number of suggestions were made, again in terms of the VSM, for enhancements of the St. Mary's model or points for caution. These included, for example, the need to develop 'System 4' roles in different parts of the district and unit to enable services to develop and changing 'customer' needs to be met; and the roles for Systems 1 and 2 in developing a 'right first time' emphasis. Some effects that making such changes could have on performance, in Beer's terms, were indicated. Finally, bearing in mind a number of emerging organisation-wide NHS quality initiatives, some factors to consider in implementing the sorts of changes identified in Step 5 of the Topic 3 analysis were identified. Sustaining commitment from the top, and developing quality-minded organisational and professional cultures could be problematic particularly for middle management, for example.

A number of the latter suggestions touched more on process and outcomes than structure, and began to indicate that the VSM alone might not be adequate for the development and maintenance of a TQM system, particularly if it was a complete innovation rather than the gradual developments of existing systems as considered here. Furthermore, in terms of

Pollitt's desirable features of performance evaluation incorporating quality, our viable TQM model could potentially be too introspective and mechanistic.

Reflections on the analysis.

The VSM was chosen for its strengths in structural diagnosis and design, although we suggested that it could also play a role in exposing differences in values of stakeholder groups. Although the main focus of the analysis was on structure, at Step 6 as just mentioned it was indicated that introducing quality management would often present problems of process too, perhaps especially at the implementation stage. We were prepared to apply the VSM in Espejo's (1987b, 1989) mode I or II, for improvement of existing arrangements or design of new ones. Having 'built' a viable total quality management system we noted, in verifying the model, the following limitations:

a) the simplicity of the model application

b) little indication of how such a system would respond to major sudden internal or external change

c) the supposed weakness of the VSM in dealing with conflicts.

Taking these 'weak points' in order, a) may actually be seen as a strength. Forcing important real-world features into the VSM and then reshaping them may not be appropriate if we are not yet sure of their informal or perceived roles. Further, if such features reflect processes or culture, it may be best to exclude consideration of them here and address them through a different model. While System 2 of the VSM conveys expectations of management, and management information, the VSM may need to be used in very experienced hands in order to assist with the problems of, say, motivating middle management who feel threatened by total quality. A number of important cybernetic concepts incorporated in the VSM, including requisite variety, did not receive much consideration in the analysis because it would have strained the simple 'viable TQM model' and involved poorly-substantiated assumptions.

Taking b), the impact of change may become clearer as more health authorities adopt organisation-wide or total quality models and their experiences can be catalogued, especially if quality standards are included in the specifications for contracts in the forthcoming internal market. A more detailed application of the VSM could explore the effects of change in both quantitative and qualitative ways.

The way the VSM deals with conflict and power, c) above, is the subject of long-running debates which show little sign of abating. Within the VSM, while System 1 (the operational level) is supposed to be autonomous, this autonomy is limited by objectives decided at a higher (usually System 5) level. It may not always be liberating either, as within System 1

there will be stronger and weaker parties just as negotiations between 'viewpoints' can perpetuate dominance in relationships. While control is decentralised, System 4 is supposed to provide the organisation with elements of its culture - a model of common perceptions and values, but a potentially coercive as well as cohesive element. However, the dissemination of culture will depend on the effectiveness of communication systems too. Cybernetic concepts could enhance our understanding of these systems; but the VSM could constrain organisational learning and reflectiveness if taken too literally.

Jackson (1989) concludes that it is not helpful to deny the limitations of the VSM, arising from its concentration on systemic/structural constraints and comparative neglect of differences in interests and values of participants. This certainly reinforces the need for care in model choice. Our application, as a model of relations between primarily structural elements, has been useful as a diagnostic aid, but we could conclude that on many occasions the problems of introducing comprehensive approaches to quality in the NHS may be only partially served by the VSM. Significant contributions from approaches concerned with process and learning will be required. Thomas (1980, op cit.) concurs: having the VSM blueprint is not enough for direct implementation of the new system, the craft of change management is required as well. Even then he suggests, like other systems models the VSM may remain un-implemented. It could be more constructive to use modelling and analysis to generate tension between 'what is' and 'what might be', leading to debates about changes and enabling more people to influence the debate.

Morgan et al. (1988) describe the approach that they used when working with unit managers to develop quality assurance. This approach can form a bridge between Wilson's adult learning model and the VSM. With the emphasis on experiential learning, Morgan et al. take managers through: an introduction to the dimensions of quality; an exploration of alternative perspectives held by key groups about objectives, standards and quality; and an introduction to the purposes and principles of QA. Finally they introduce their model of a basic QA system with six main components (performance monitoring system, service specifications and the like) which have very similar functions to the Systems of the VSM. Theirs seems an effective way of integrating structure and process, learning and practice.

In the next subsection we will look at another topic with strong links with quality - Topic 7, reducing waiting lists and times - and see whether cybernetic models could have been more suitable than others in that context.

<u>Lessons from Topic 3 for the analysis of Topic 7, Reducing waiting lists and times.</u>

The outline of Topic 7 in Chapter 2 introduced some of the major factors which make long waiting lists and times for hospital treatment a prominent and apparently intractable problem. The central government waiting list initiative (WLI), introduced in 1987, was outlined in Chapter 5. In spite of additional sums earmarked especially for waiting list

reduction schemes, at 31 March 1989 the total number of people waiting for in-patient or day case treatment was 922,700, an increase of 2% over the previous six months for the former, and 7.7% for the latter. The proportion who had been waiting for over a year ranged from 16% in Mersey to to 38% in North East Thames region (DHSS Press Release, 21.10.89). A special DoH task-force is now trying to help districts with the worst lists to understand the reasons fully before choosing what schemes to implement, and how. The task-force is led by John Yates, whose analyses of long waiting lists (Yates, 1987) indicated the multiplicity of potential contributory causes, from lazy doctors through lack of resources to poor management. What might the prospects for success of this approach be? If the task-force wished to take a systems approach, which would we recommend?

If we were dealing with designing and implementing some significant new arrangements from scratch, any suitable approach used in a 'generating tension' mode (Thomas, 1980) may be a promising way to start, recognising conflicting interpretations of the situation and drawing out values.

In a situation of improvement and change rather than novel innovations, would it be worth trying the VSM? Espejo and Harnden (1989) have collected applications of the VSM which suggest that it can contribute to organisational development, is excellent for the design of information systems, and should not be seen as confined to structure. Perhaps our application of the VSM to the development of TQM did not produce very exciting results because most of the problems were internal to the system; waiting lists are far more strongly influenced by factors in the wider NHS system and environment and therefore draw on more facets of the VSM. As many of the waiting list schemes involve information systems, for GPs and health authorities, the VSM would be worth considering again in some particular instances.

A general approach which should be helpful in all circumstances, to assist in obtaining a full understanding of the reasons behind large lists and long waiting times, is the use of multiple cause diagrams; Figure 6.1 is a simple example. Their development into causal loop diagrams, indicating positive and negative feedback effects, could provide powerful tools. The dynamics and interactions could be addressed further through system dynamics modelling. But for a large number of lists, while their underlying causes can be at least partially explained, it is very difficult to instigate action which has a significant impact. Organisational culture, professional values, disputed priorities and objectives are barriers to change that are as strong as more tangible resource limitations. Soft systems methodology could be most suitable initially. Empirical data about change and inovation in the NHS should also be considered (Moore 1989, Stocking 1985, Pettigrew et al 1988a, b).

The need to include soft approaches in a problem area which used to be regarded primarily as one of 'getting the numbers right', was summed up in an interview for this research with a senior NHS manager with experience in the DHSS, region and district levels. He saw

waiting lists and times as an important example of an issue bringing doctors and managers into contact. There was the potential for confrontation or constructive bridge-building, each of which would have wider ramifications for the many NHS changes ahead. It seems that the significance of the approach to clinical involvement is being more widely recognised now, and waiting list initiative schemes exemplifying successful collaboration were specifically identified in the most recent memorandum to the Social Services Committee (Social Services Committee, 1989).

With the continuation of the WLI, and quality initiative projects including TQM, there will soon be plenty of potential opportunities to explore systemic factors in these important areas of NHS performance, if data about them become available.

8.2.4 Topic 4. Assessing performance through outcomes of care.

If the NHS is to achieve the goals of providing 'a broad range of services to a high standard', and 'satisfy[ing] the reasonable expectations of its users', it is necessary to know the effectiveness of curative and preventive care. Provided that enough is known about the inputs and processes (e.g. initial health status of patients, risk factors for treatments), the comparative assessment of the outcomes of health care should be an indicator of whether standards of clinical practice are high enough in different departments, hospitals or health authorities. There are a lot of difficulties attached to the introduction of outcome assessment. The efficacy of a clinical treatment is often not fully established through trials before its introduction; the effect of factors such as poor home conditions on recovery is difficult to take into account and so on. As well as the technical problems, there are professional and cultural/ political barriers to outcome assessment. Our analysis of Topic 4 aimed to use the soft systems methodology (SSM) to explore ways of surmounting such barriers, as if one were a civil servant developing ways to introduce outcome assessment nationally.

In the face of the almost total absence of assessment of outcomes of NHS care, ten problem themes emerged from the initial stages of the SSM, and one was chosen to be developed fully: 'how can one act on outcome data and information?'. A relevant system (one which if it existed in the real world could be relevant to this problem), was 'a system identifying the preconditions for, and necessary arrangements for the implementation of, a national outcome monitoring system' - in other words, stopping short of the actual implementation, but preparing for it. From the root definition of this system, the conceptual model was produced showing the activities logically implied by it (Figure 7.3) - rather a cumbersome model, with too many activity groups if one abides by Checkland's early guidance of a maximum of nine. This aspect is discussed in the next subsection.

So our aim in using the SSM is to design means of improving outcome monitoring, taking both fairly straightforward technical and more messy human elements on board. After stage 5 of the SSM, where the conceptual model was compared with 'reality', 22 points were identified at which the difference between the conceptual model and real world suggested scope for improvement or debate. Descriptions of seven were included in Chapter 7 section 7.4.2, representing priority activities which our hypothetical civil servant would need to consider implementing first. The following list sums up these activities, the essence of the problems they presented and suggested changes:

a) 'Collect mortality and morbidity data':
little morbidity data is yet collected, especially about non-acute illness; there is a need to collect comprehensive data, be able to link patient records and identify hospital department and/ or doctor.

b) 'Analyse data for significant variations':
again there is a dearth of comparative data, and a need to collect and make accessible data for analysing patterns of care and their outcomes, and more research into causal factors.

c) 'Consult with experts about avoidable mortality and morbidity':
available indicators are for limited conditions (deaths only); it would be wise to know how clinicians use performance indicators before developing them further.

d) 'Decide on priority for implementation of outcome monitoring':
the NHS needs rapidly to expand evaluation of treatments before choosing what outcomes to look for - to maximise the alleviation of suffering, not just reduction in avoidable deaths; this reinforces the call for more research into causal relationships.

e) 'Evaluate new/ revised arrangements for outcome assessment, recommend implementation accordingly':
such innovation needs careful design; arrangements should be flexible and relevant to the ways clinicians make decisions.

f) 'Set timetable for introduction of outcome assessment, allocate responsibilities and resources':
this sort of project needs a lot of time and resources, both hard to estimate; there is a strong need to co-ordinate all changes carefully, make clear what has to be done when by whom, and where possible link new outcome assessment with other developments e.g. health promotion.

g) 'Establish systems for training and on-going review of problems with outcome assessment systems':
need to develop a climate conducive to learning, building on existing initiatives, making links between professional and managerial activities towards common goals; evaluate the evaluation systems and expect to make changes.

A number of systemically desirable and culturally feasible changes arising from this comparison between the conceptual model and real world were identified. These fell into Checkland's three categories - changes in structure, procedure and attitude - and if implemented would go some way towards meeting the needs of the root definition. Because the SSM had been applied to the 'problem' of outcome assessment from a single viewpoint, that of a civil servant, at Step 7 in our analytical process some other real-world factors relevant to the development of such assessment were identified. The need to obtain a fair picture of the clinical perspective rather than a stereotyped one was noted, and it was

suggested that our holistic examination should be continued by exploring a number of other viewpoints, perhaps employing techniques from psychology. Thus the present analysis was the first step of a comprehensive, systematic and systemic approach. Evaluation in terms of health outcomes, while serving a variety of interests, will perhaps also come closest to judging the performance of the NHS in its own terms.

Reflections on the analysis.

In the process of choosing a methodology for the analysis of Topic 4, the score in favour of the SSM was particularly favourable, and the process of the analysis has not suggested that a different methodology or model would have been more helpful. But a few points do arise, about developments in the methodology or relating to the problem situation as it would become if our suggested changes were to come about.

In the absence of routine outcome assessment, making certain types of health service choices can be seen as decision making under conditions of high uncertainty over both objectives and causes and effects. Take, for example, a decision to require health authorities to extend cervical cancer screening to women over 65, with some sort of sanction if after a certain period the take-up rate fell short of a pre-set target. The objectives of policy makers and groups consulted about this innovation may be quite different. Many of the reasons for raising awareness of this cancer are less relevant to older women; non-attendance for screening will be hard to interpret and change; and its effectiveness and cost-effectiveness will be difficult to assess. Lack of certainty over objectives and over cause and effect are related here, and a decision to proceed should be seen as one characterised by inspiration, Box 4 in Hopwood's matrix. But if screening for all age groups had been evaluated and feasible targets for take-up and (avoidable) mortality could be set, would the decision to require screening and to judge the performance of health authorities be simply a matter for computation? It is unlikely that these uncertainties would be resolved that simply or quickly. Certainty is only likely to increase as agreements are reached on the wider value and purposes of outcome assessment, and as full understanding both of clinical causation and of the role of assessment in improving practice, is acquired through research and action.

In Chapter 7 we noted the niggling doubt that the SSM had been used to support one of the stronger parties, precluding any significant change from the status quo in favour of the weaker groups (patients and non-clinical staff) and demonstrating the functionalist nature of the methodology. Atkinson and Checkland (1988) suggest an alternative to the dominant notion of systems as adaptive wholes bringing about single transformations to meet a unitary purpose, which is at the root of the 'accusation' of functionalism. Alternative metaphors are suggested whereby the relevant system might be intended to perpetuate the dominance of one group over others, or to co-exist in collaboration with other autonomous wholes, or develop collectively within the organisation of interest. Thus Thomas (1980) in

his example of the use of the SSM to 'generate constructive tension' in a situation of conflict in a workers' co-op could intuitively have chosen a contradictive metaphor for system, 'more relevant to structuring debate in their problem situation than a unitary purposeful system' (Atkinson and Checkland, ibid, p. 721). Alternative metaphors for system lead to different roles for the comparison of the output from the conceptual model with the real-world problem situation. In the case of Atkinson's (1989) study of an inner-city health centre the 'complex interacting wholes' metaphor enabled many transformations to be incorporated in one root definition, an approach well-suited to the early stage of a multi-agency problem where the perceptions of a number of professional groups were quite different. This development of the SSM is at an early stage but could be useful in a range of multi-professional health service contexts.

The conceptual model, Figure 7.3, had 14 activities or groups of activities, and we need to consider whether this number is appropriate; Checkland has advised a maximum of 9. On reflection, some of the activities would be more suited to a conceptual model (CM) for the issue based problem theme 'how <u>should</u> one act on outcome data and information?' Recent work by Checkland (1989) provides some new thoughts on this stage of the SSM. First, he emphasises the desirability of having some hierarchical elements in the system - subsystems, perhaps a wider system, within which activities can be grouped and if necessary become the focus of separate analysis. Our model has a lot of activities at the 'same' level some of which could, for simplicity and clarity, be treated as being at a subsystem level. Further, he appears to have replaced the separate formal system model (used as a validation tool) with a requirement that any system should be set out in terms of operational subsystems(s) and controlling and monitoring subsystems. A target-setting subsystem feeds criteria for effectiveness, efficiency and efficacy into the latter. This seems to bring the CM even closer to the VSM, and could provide ideas for re-structuring our model.

Broadly speaking, the SSM has been well suited to this application to a wide and relatively unstructured topic. While other methodologies and models can play a part in more specific aspects of the development of outcome assessment, the SSM preserves robustness through the option to analyse a number of problem themes, and iterate within each analysis, until a detailed enough picture is built up.

<u>Lessons from Topic 4 for the analysis of Topic 8, Planning for health.</u>

This final topic, like Topic 4, is wide ranging, and currently poorly supplied with evaluative activity. We can find problems at the highest level surrounding the suggestion of a national Strategy for Health. Internal DHSS papers appearing to deny the possibility that other governent departments responsible for housing, the environment, employment, food, might have a part to play in preventing ill health. At the community level local Healthy Cities

projects experience difficulties in measuring the extent of health problems as well as planning interventions (as revealed in interviews with staff at Sheffield DHA for example). At the individual level the increasing emphasis on 'lifestyle' factors distracts attention from environmental influences on health. 'Planning for health' needs to involve each of these levels, although the choice of emphasis is largely a political one in terms of the implicit and explicit challenges to the medical model of health, and a party political issue in terms of the relative emphasis placed on individual, communal or state responsibilities. An insightful assessment of the implications of different sorts of political strategy and the scope for action in the 1990s, based on a comprehensive assessment of current knowledge about the state of the public health in Britain, is provided by Smith and Jacobson (1988).

We do not generally know enough about the causes of ill health to choose narrow technical tools or models at this stage. The quantification of the World Health Organisation's definition of health - physical, mental and social well-being - or less ambitious definitions, and the development of indicators for monitoring progress, are tasks which have to be undertaken (Breslow 1972, Jardel 1984). The choice of appropriate measures needs to meet systemic considerations. But the SSM (perhaps drawing on Atkinson's multidisciplinary problem-structuring approach) (Atkinson et al 1989, op cit), our enhanced HSM and double-loop learning and control model could each play a part. If the focus was on assisting community-level projects (outside the NHS as well as within it), then Jackson's 'methodology for methodology choice' for community OR seems appropriate; a number of 'soft OR' planning tools could be helpful. DoH circular HC(88)64 (DoH 1988a) gave health authorities new responsibilities for setting and achieving health status targets, monitoring and reporting on public health - described like the guidelines for short term planning and implying a rational planning model. But the complexities and uncertainties surrounding the prevention of ill health and promotion of good health are even greater than in planning for curative services and suggest that the conventional NHS approach to planning will need alteration. Our enhanced HSM and Rosenhead's robustness analysis could be applied at the health authority level. But the initial need in an analysis of Topic 8 would be to clarify the purposes of the enquiry - official, unofficial and operative, in Perrow's terms (Perrow, 1961 op cit). There seem to be many hidden agendas where planning for health is concerned.

8.3 STEP 10. ASSESSMENT OF THE OVERALL APPROACH

8.3.1 Benefits

Starting with an idea that systems approaches could usefully be applied to the study of NHS performance evaluation, and to the evaluation itself, it soon became clear that there was no 'off the shelf' methodology waiting to be applied. If the aim had been to apply one systems approach, or tackle one well-bounded example of a performance evaluation problem, then efforts could have been directed towards action research or other existing forms of systems practice, refined if necessary. The aim of the research was however rather broader, and although conventional methods of data collection were used the way in which the data were to be analysed needed to be developed to suit the research objectives. No doubt other analysts have arrived at similar sets of steps and procedures; finding out 'how to do systems research' is a challenge in itself. The ten-step process arrived at here was designed to enable diverse methodologies and contexts to be combined in a standard way, with as much attention as possible to rigour when conducting and describing the analysis. The use of feedback loops, while sometimes cursory, is a practical way of encouraging iteration as well as separating some checks on the rigour of the research process, from that process itself.

While there is plenty of scope to refine the process, a valuable start has been made towards a framework for the application of a range of methodologies and models which could be used in research, consultancy and teaching. Dividing the analytical process into phases of diagnosis, design, implementation and review (steps 9 and 10) is a simple way of making general comparisons between the applications, and could be further developed and incorporated in the process of methodology choice. The process of choice of methodologies and models developed here proved relatively successful although some of the criteria initially included were unnecessary. Combining approaches like that of Jackson which focus on characteristics of the methodology and the problem context, with considerations relating to the analyst's skills and weltanschauung, is a practical way both of avoiding highly unpromising combinations and of identifying explanations for less-than-successful analyses.

Because each of the ten steps had a purpose, the incorporation of ideas from outside the systems analytical approach could be undertaken without compromising the proper use of whichever methodology was in train. In other words, at the outset of this research it was considered likely that ideas and explanations from 'outside' systems thinking (where a

boundary can be drawn) would have some important and useful parts to play. Rather than blend a systems methodology with some other analytical perspectives, opportunities were built in for explicit departures from systems thinking or practice where necessary; just as one might, when undertaking a photographic assignment, turn aside to study texts on the use of light and shade in painting before returning to compose the photographs. Several 'free standing' devices (such as the Hopwood matrix introduced in Chapter 3) brought additional insights and perspectives to bear on the analysis without posing problems of conflicting assumptions.

Turning a mass of ideas and data about a diverse range of evaluation activities and problem areas in the NHS (the sort of mass which NHS staff live with from day to day), into relatively bounded topics for analysis, naturally involved arbitrary choices and compromises. It is also subjective, yet at least for people closely involved in the NHS many of 'my' topics were congruent with their perceptions. Thus the general approach of identifying topics seems to have been successful both for analytical purposes and for communicating with others (including NHS interviewees) about the research. The description of each topic automatically places it in its wider context and indicates potentially significant interconnections between topics; it was not necessary to construct an elaborate 'map' of the research territory.

Selecting a limited number of topics and examples for analysis will always pose problems of representativeness; here maintaining a holistic approach received priority within the inevitable narrowing down required for a lone researcher. The use of secondary data permitted the indirect extension of attention to a wider sample. (This problem is discussed by Stocking, 1985.) The conclusions at each stage in the analysis are mindful of the limitations posed by selectivity.

The translation of the general area of interest into colloquial and key research questions, was probably most helpful as a way of separating out the components of a vague general concern about performance evaluation, the 'NHS debate' in the mass media and political interests. However, linking colloquial expressions of concern with academic interests can serve two purposes: to enable the analyst to frame explanations for their research in terms accessible to a wider audience, and to remind the analyst of obligations towards their human subject-matter.

In all, the approach made the transition from the general to the particular in ways amenable to systems analysis, a practicable proposition. It was flexible enough to permit adjustment to suit different methodologies and sorts of data, and relatively clear to others besides the analyst.

8.3.2 Limitations

Picking up the previous point, the approach may have made progress towards a workable analytical framework, but it was cumbersome and some aspects have been difficult to make meaningful. It needs refinement - removing the less helpful parts and perhaps incorporating some others. For example, steps 1 and 10 would not be necessary apart from in this particular research context; the comparators in feedback loops from, for example, step 4 add little to the analysis; and the 'conditions for the good use of the model' at step 2 should be an integral part of the selection of candidate methodologies or models.

The 'patchiness' of data for some topics (mostly those excluded from the detailed analysis) reflects the post-hoc nature of parts of the analytical process. Data was amassed from the start of the research, but the way it was to be used has been continually refined. If an 'off the peg' analytical process had been available this should not have occurred; and the reseach would not have been an original piece of work.

Limits to the quality of the data arose from the political context of the NHS. The topicality of the research was noted in Chapter 1. Although the NHS changes slowly in most respects, performance evaluation has been a highly dynamic aspect during the research period. Both the practice of evaluation, and the demands for it (especially from the political environment) have been in a state of flux. Personnel in health authorities and the Department of Health have changed frequently - particularly those whose work has been relevant to this research. This has had advantages too; several important informants moved between NHS and DHSS levels and where they remained available for interviews they were able to supply additional information and perspectives. Nonetheless, irreparable gaps in data collection developed as personnel, practices and even organisational boundaries changed and hitherto accessible topics became politically sensitive. Problems in researching the contemporary policy process reported by Pollitt et al (1988) strike some familiar chords.

8.3.3 Understanding the 'four P's' - the role for systems approaches in planning, performance, policy and politics

In spite of their limitations, the systems approaches applied in the present research have produced useful and potentially practical insights into each of the 'four P's'.

The use of the HSM to analyse Topic 1, strategic planning, was quite cumbersome and its future value will depend a great deal on the role for strategic planning in the NHS of the 1990s. But as we saw, the 'enhanced' HSM could have uses in other contexts where a softening of rational planning and decision-making was needed within an approach which was comfortable to the experience and organisational culture for those in the field. The HSM itself underpins much of which happens in the name of planning, performance and

policy making and deserves to be retained in spite of the messy, 'soft' nature of the problems of complex organisations, provided that its underlying assumptions are not taken for granted.

'Performance' was such an ubiquitous theme that it was pinned it down especially in the context of the annual review process. In developing the simple but powerful double loop model from the work of Blunden and Hughes (1987), it was possible to make horizontal, vertical and temporal links which can provide explanations and clues to both the origins of some of the NHS' problems and their improvement.

Policy had a similarly wide influence. During the research period the policy process became explicitly linked through the distinction in NHS planning guidelines between policy aims and service objectives, and the gradual move towards quantifiable or measureable objectives for each NHS level. Government policy changes extended from the content of health policy per se, to the way in which policy was itself made - the Prime Minister's review of the NHS, the development of 'policy ground rules' within the DHSS, and the refinements of the roles of the central general management bodies - the NHS Supervisory and Management Boards at the outset of the research. The role of policy therefore was more significant than had originally been expected, and came to influence each of the topics in some way. Each of the systems approaches was able to cope with this unexpected dimension; although the choice of the VSM to study quality improvement turned out to be relatively less productive than another approach might have been as the nature of the 'problem' of quality changed to some extent during the research, becoming more about policy and process and less about structure.

So how did systems approaches cope with politics? On the whole, it was possible to apply the chosen approaches within contexts that were at times highly political, without having to exclude important influences on the topics and their problem areas. The SSM for example was applied with some success at a level which was strongly influenced both by organisational and government/ opposition politics. However, systems approaches did not come up with serious challenges to dominant groups or interests; nor did they produce ideas for revolutionary change. In part this was because of the pragmatic requirement that changes should be politically and culturally feasible and acceptable. This is not a concession to the powers that be; changes which would be emancipatory, which could increase the involvement of lower status staff, patients and the community, were actively sought, and in a number of cases they were found. There were instances where radical changes to power relations could have resolved the problems of some topics at a stroke, but when the more critical systems approaches were considered they did not seem to provide the design capacity of the more conventional hard and soft approaches.

We have seen that these conventional approaches can be developed in ways which minimise their functionalist, unitary assumptions and open the way for exploring problems

from a range of viewpoints; they can be used to 'generate constructive tension' (Thomas, 1980) and expose imbalances of power or other inequalities. The limited capacity of current systems approaches to tackle political problems, conflicts of value and wider social inequalities should not be regarded as a problem so long as these issues can be tackled with political tools in the political domain.

8.4 PROSPECTS FOR 'BETTER' PERFORMANCE EVALUATION

This analysis coincides with the prospects of major changes in NHS objectives and as the dimensions on which performance will be assessed following 'Working for Patients' (HMSO 1989), it is difficult to base expectations for the future on the experiences of the past. It is perhaps most helpful to ask, taking the basic NHS goals identified in Chapter 3 and the performance dimensions described there, if our 'recommendations' were considered by the NHS or DoH in circumstances unchanged by the White Paper what effect might they have in furthering the attainment of those goals?

Taking the goals in the order of Section 3.2, we have seen that it is still early days for the NHS to 'encourage and assist individuals to remain healthy'. An improvement in ways of measuring health care effectiveness (such as our suggestions for outcome assessment) will play a part, but the limited influence of health services on health status mean that multi-organisation methods and social, economic and environmental changes are the main challenge.

For the NHS to 'provide equality of entitlement to health services', better assessment on the dimension of equity will partly come from developments in statistics and information systems - provided that the resources are allocated for the analysis and then for the necessary action. Theoretical equality of entitlement has already been achieved.

The provision of 'equality of access' poses similar considerations, with additional implications for short and long term planning approaches. The increasing interest in the NHS of understanding patterns of need and alternative ways of meeting them can be enhanced by systems approaches, although sustaining the momentum for change is made difficult by competing demands on time, human energy and other resources.

The goal of a service 'free at the time of use' is ambiguous and largely in the hands of politicians, although it could be said that pressures to charge patients for services would be less if the NHS were more efficient. We have seen that a plethora of efficiency measures have been introduced in recent years. While there will always be scope to re-examine ways of doing things and find more efficient ones - a search which systems approaches can participate in - there are limits to how far 'efficiency' can be increased without it affecting performance on other dimensions.

We have also seen a wide array of NHS attempts to identify and 'satisfy the reasonable expectations of its users'. Attention to quality, effectiveness and acceptability has blossomed and is not always directed at superficial aspects of the service - there are serious changes afoot in standards of care, patient participation and choice. But there is a long way to go. Is the NHS becoming better able to assess its progress on these dimensions? In Chapter 6 we noted that Pollitt's (1986b) conditions for more appropriate performance

evaluation schemes would not all be met by the use of our VSM-based approach to quality management. Would they be met if a wider range of our suggested changes were introduced? Relating to each of them in turn, we could conclude that:

- we have tried to avoid suggesting performance assessment processes which are directly linked to individual job prospects, partly because our focus has generally been at a level above the individual member of staff. But we have generally sought approaches which emphasise learning and development rather than judgements of right or wrong.

- we have sometimes accepted that changes to evaluation practice will be imposed and not optional, although we have also tried to remain alert to the implications of unwilling compliance with such requirements.

- we have generally looked within Britain for ideas to develop, rather than looking to the private sector or abroad. However, the suggested developments for planning, quality and to a lesser extent structure and process assessment, applied models which incorporated ideas from elsewhere, to emerging NHS practice.

- we have always assumed that direct inputs from consumers is legitimate, but not always easy to obtain; and acceptance of such inputs will raise delicate issues of organisational and professional culture.

- our analyses have generally considered the need for management and other sorts of information; these considerations are to the fore in many parts of the NHS too although constrained by lack of skills, resources and clear objectives for the use of information.

- underlying each of the systems approaches we have used, is a holistic awareness which has identified sound reasons for rejecting a short-term, mechanistic efficiency focus, in each topic considered.

We can conclude here that we have found some moves in the direction regarded by Pollitt as desirable, within changes which are already taking place in the NHS. Our suggestions have tried to encourage such changes.

Taking the last of the NHS goals identified by the Royal Commission and considered in Chapter 3, the future of the NHS as 'a national system responsive to local needs' is in the most serious doubt. But by giving equal attention to strategic planning, quality, outcome assessment and annual and routine review processes, we have tried to improve those forms of assessment and action which enable the NHS to meet national, local and individual needs effectively and equitably.

We have been mindful of the inclusion of efficiency as a component of quality and acceptability, and assumed that 'waste' should be avoided. But efficiency is not a simple concept and we have generally assumed that the interrelatedness of efficiency and the other performance dimensions deserves explicit attention, which systems thinking is well placed to provide.

8.5 CONCLUSIONS: ACHIEVEMENTS AND PROSPECTS

8.5.1 How far have the aims and objectives of the research been achieved?

Section 1.7 of Chapter 1 lists aims and objectives, and having urged on the NHS the rational identification of objectives in order for performance to be assessed effectively, we need to abide by the same maxim. Starting with the contributory objectives:

- We have explored the role of objectives in the context of NHS performance evaluation, and attempted to identify the diverse interests which make performance improvement problematic;

- We have applied systems approaches in ways which have addressed parts of the NHS in their wider NHS and political, social and economic environments;

- We have explored stability and change, power, management and control - with perhaps most emphasis on the latter two;

- Complementary concepts, analytical devices and explanations have been incorporated at a number of points; we have not claimed that systems approaches - how ever carefully chosen - can tackle the problems of NHS performance on their own;

- We have examined the performance-related topics systematically, taking into account any formal objectives involved, short and long term processes which are available to the NHS already, and the role of modelling in these processes. However, we noted at an early stage that a wider range of approaches to data collection would be needed to obtain a full picture of the role of modelling in the NHS.

Turning to the overall aims of the research,

- We have begun the search for the aims and objectives of and for the NHS, but this is a search in a dynamic and complex field which is unlikely ever to be complete.

- We have obtained a fairly detailed picture of the formal means by which the NHS assesses the attainment of some groups of objectives, and the links between assessment and implementation. However, we have paid less attention to decision-making for action per se.

- Through the application of systems methodologies and models to performance-related topics, we have been able to make some judgements about the contributions which these assessment processes and actions have made to attainment of objectives. Suggestions for changes have been made - changes which could readily be explored further by more detailed applications of systems approaches.

- The underlying aim which gave rise to this research - to test the contribution that systems approaches can make to the analysis of health service performance - has been satisfied through the application of methodologies and models to topics. A small but direct step towards bringing systems ideas into NHS practice has already been made through the discussions which the research has engendered within parts of the health service, at conferences, and now through this thesis. The development of a general analytical process makes further and more significant contributions possible and desirable.

8.5.2 Scope for further research.

Although this is the end of the thesis, it will hopefully mark the beginning of fruitful further research and practice. Opportunities have already been presented to: contribute to the development of performance indicators for a part of the health service currently almost entirely devoid of ways of assessing its performance; develop some of the work for the thesis with a view to publication; and contribute to teaching material on organisational performance evaluation.

If these opportunities are to be successfully pursued, there are a number of areas of the work to date which deserve refinement or further exploration. Several have been mentioned already - the streamlining of the 10 step analytical process and methodology choice, further attention to implementation and so on. Other ideas which have been set to one side during the research include:

1. The distinction between (interdependent) strategic, operational and cultural/ political aspects of performance, which began to emerge from analysis of the different topics. Such a distinction could be used to help in the choice of fair and relevant ways to 'assess the assessment procedures'. Each type of activity is needed for the organisation to work successfully, but it may be unreasonable to expect those devising ways of assessing outcomes of care, for example, to concentrate on the same dimensions of performance as those looking for strategic improvement. These three types may perhaps be placed on a continuum from 'strategic/ top management' to 'pervasive, cultural/ political', and exploring them could strengthen the emerging links between systems thinking, policy analysis and strategic management.

2. Fuller exploration of influences on, and processes of, decision-making about performance - clearly relevant to the design of evaluation processes.

3. Further development of the idea of a continuum between double-loop learning and control, and its potential use to explore messy organisational problems.

Each of these ideas can readily be developed in the context of the National Health Service, among many others. We will close here with an opening provided by the editor of the report of the 1988 Sunday Times 'Best of Health' competition to find the 'best' health authority in Britain. Of the winning entries, he wrote:

> '... [they] show that, far from being on its last legs ... the NHS is a triumph. Not because of our sentimental affection, or some nationalistic faith in "the best health service in the world". Nor even because, given the choice between a particular government or the NHS, the public would choose the latter. But simply because, when you go right to the heart of this vast enterprise, the National Health Service works.
>
> How it works is hard to explain. ...' (Deer, 1988)

Providing some explanations, and looking for ways to help the NHS work as well as possible, have provided the challenges for this research. They will continue to do so.

APPENDIX TO CHAPTER 8. TABLES PRESENTING SUMMARY RESULTS FROM APPLICATION OF THREE TESTS DURING ANALYTICAL PROCESS.

TABLE 1

Results from feedback check for Step 2 of analytical process, Chapter 2, Section 2.6.2. 12 features of a good model, and how those chosen performed.

Abbreviated question.	Topic 1, Planning.	Topic 2, Structure and process.
1. easy to use	yes	yes
2. cost effective	yes unless data hard to get or modelling complex	yes
3. easy for analyst to understand	yes	yes
4. easy for 'client' to understand	should be OK for NHS planners, like option appraisal	has been when discussed, and is similar to models in management education
5. credible, realistic	hard to tell, talk through with NHS informants	will sometimes be unrealistic, highly simplified, analytical tool
6. designed to enhance & inform	yes, although sometimes used prescriptively	yes
7. uses good quality data	yes, but sensitivity, accuracy hard to test	yes, and can use poorer data in more exploratory modes
8. manageable data demands	yes, although more views and info. re. objectives would be valuable	yes
9. can use surrogate/proxy data	yes but check value	yes, and may be specially appropriate if using model as analogy
10. robust to different data	yes	yes
11. can assess sensitivity of models built	hard to choose criteria, larger sample better, look for examples of change	yes as range of examples illustrates

12. user-friendly results	yes should be	yes, the simpler the application the more likely this is

Abbreviated question	Topic 3, Quality	Topic 4, Outcomes.
1. easy to use	yes, and texts like Beer (1985) may help	yes
2. cost effective	VSM is a cheap tool for initial investigation at least	here, yes, although action research per se may have cost implications
3. easy for analyst to understand	reasonably; Clemson's (1984) writing is more comprehensible	yes
4. easy for 'client' to understand	using Clemson's language and minimal jargon, the proposed TQM model was described easily to people in the NHS	past experience with SSM suggests it is
5. credible, realistic	difficult to assess realism here	should be
6. designed to enhance & inform	VSM incorporates the decision process and prescribes its structure, and identifies the necessary connections between internal and environmental scanning, decision making and action.	yes, explicitly
7. uses good quality data	Beer emphasises full analysis and understanding of organisational reality, and need for good data for planning and control. Espejo (1989) considers models of complexity held by managers.	the emphasis may be more on subjective than objective data, with the potential problems this presents
8. manageable data demands	large data demands; but secondary material and discussion with NHS staff supplemented primary data here	should be for early iterations, although may involve detailed investigation in sensitive areas
9. can use surrogate/proxy data	yes, with care	yes, if necessary
10. robust to different data	yes, intrinsically	yes
11. can assess sensitivity of models built	experiments and mathematical models possible, but not here; had to reflect on hypothetical intervention effects	can be difficult, depend partly on iteration and thoroughness of description

12. user-friendly results	designed for self-application, but jargon off-putting. Look for non-jargon terms to convey ideas.	should be enhanced by distinction between abstract world of systems thinking, and real world problem situation, interacting with client.

TABLE 2.

Results from Step 3 of analytical process, Chapter 2, Section 2.6.2. Verification - 13 questions, any implications for changes in methodologies.

Abbreviated question	Topic 1. Planning	Topic 2. Structure and process
1. Model can reflect key aspects of problem situation	Yes, hence initial choice	yes, discussed in Section 5.7
2. Each step in model building logical, relevant	Yes, intrinsically	yes, discussed in Section 5.7
3. At appropriate level of detail	Difficult, many potential levels & micro level problems important, be aware of although focus is higher level	yes, discussed in Section 5.7
4. Incorporates appropriate information for context	Yes, although at macro level need to look for subsystems	yes; in a way model is developed to suit data available, and developed iteratively with further data
5. Data-providers aware & motivated to give good quality data	Yes, although some constraints on use & a lot is secondary data	Primary data enthusiastically provided although precise use not decided then
6. Can cope with unpredictable changes	Yes provided that creativity and iteration operate, & rationality not too dominant	intrinsic to model design
7. Can reflect & respond to environmental changes	Yes, consider for most HSM stages	intrinsic to model design
8. Represents hierarchy, appropriately recursive	Yes, hierarchies of org. structure and planning timescales; recursion in other terms possible too	yes, mostly real-world organisational levels; recursion not of concern here
9. Produces politically feasible results	Yes, but problems can arise at any level	yes, depending on context; Hofstede's model used as check
10. Can cope with conflicts of interest	Mostly, e.g. using CBA, option appraisal; deep conflicts e.g. job losses harder to trade off; need change management techniques	can expose and explore them, may not resolve them

11. Produces culturally acceptable results	Yes, if changing NHS culture prevents rigid rationality of use; change management techniques too	yes, depending on context; Hofstede's model used as check
12. Can cope with conflicts of value	Harder, value conflicts reflected in objectives, don't assume unitary; implications for planners' work; change mgt. techs.	may reveal rather than resolve them, through the 'learning' end of the continuum
13. Results can be tested against observations known to be true	Possibilities but not here, e.g. controlled experiment, quantification of planning effectiveness	possibly - see text

Abbreviated question.	Topic 3, Quality	Topic 4, Outcomes.
1. Model can reflect key aspects of problem situation	Yes, with the focus on structure. Other models may also be useful	Yes, rich picture and problem themes identify all key aspects
2. Each step in model building logical, relevant	Essential logic is in Beer's development of VSM. Here we concentrate on simple application of five functional systems, while assuming their power from cybernetic principles will also be relevant	Yes, moved from unstructured data capture towards logical expression of relevant systems
3. At appropriate level of detail	Data intrinsically rich, but model-building confined here to a few levels and recursions	Yes; potential for greater detail at later stages and use of other models within e.g. SSM stage 4
4. Incorporates appropriate information for context	Data from NHS for model-building may be atypical, failures under-represented; but purpose is to build on strengths anyway	Yes, for present context; real consultancy application would require mainly primary data
5. Data-providers aware and motivated	as 4.	Primary data here provided voluntarily
6. Can cope with unpredictable changes	6. and 7. Not yet clear how well a TQM system structured like the VSM would respond to significant and unexpected changes (e.g. merger of two health authorities). VSM is intrinsically equipped to maintain stability or reach a new stable state, through its cybernetic underpinnings; Jackson (1989) identifies some potentially relevant problems to which we will return	Without difficulty, through iteration; obtaining change is part of the task here
7. Can reflect & respond to environmental changes	System 4 of the VSM with its 'future monitoring' role, and the operational system 1 levels' links with the local and present environment, provide a strong potential for identifying and assessing environmental influences.	Yes, does so explicitly at root definition stage

8. Represents hierarchy, appropriately recursive	VSM is the archetypal recursive model; appropriate, although recursive levels may not reflect NHS organisational levels	Models developed here are not recursive, but focus on high organisational level which encompasses some concerns of lower ones; relevant systems address the responsibilities of those at different levels
9. Produces politically feasible results	9. - 12. points have been noted elsewhere as potential weak aspects of the VSM, or ones which it does not claim to tackle. In steps 9 and 10 in particular we will assess the significance of the large gaps which an inability to cope with such concerns may leave in our analysis.	Yes, although viewpoint adopted here might tend to accept coercive/ centrist imposition of change; analysis may draw out negotiable options
10. Can cope with conflicts of interest		Yes to each of 10, 11, 12 in the current application context
11. Produces culturally acceptable results		
12. Can cope with conflicts of value		
13. Results can be tested against observations known to be true	Can compare VSM structure and organisational behaviour, with real-world organisations (can debate whether they represent 'true' values). But comparison is necessary. Purely quantitative applications (e.g. Wilson, 1975) will not concern us here.	This positivist consideration is less relevant to the interpretive SSM, but if used in a real consultancy context rich picture would incorporate perceptions of 'true' values held by client group members. Another analysis would not replicate this but may identify many common features of problem situations.

TABLE 3.

Results from feedback check from Step 4, Validation tests, Chapter 2, Section 2.6.3.

Abbreviated question.	Topic 1, Planning.	Topic 2, Structure and process.
1. Can the model reflect any value-laden, unclear, changing or complex aspects of the problem situation?	Yes; HSM can help in re-planning plans, as well as re-planning system, at times of change; has components to tackle complexity e.g. through modelling stage.	The problem situation is not highly value laden, is clear but complex and aspects of it changing quite rapidly. Model can be applied to data over wide range of levels of detail and dynamic elements.
2. Does model assume realistic enough internal & external conditions?	Internal - OK, caution re. unitary, rational assumptions. External - may not suit business plan needs post White Paper.	Problems of control recognised by actors at each level. Easy to assess their appropriatenessof inputs from external context, and internal processes depicted. Model may not explain why unexpected outputs appear; should prompt creative search for missing inputs or misunderstood processes. Could develop surrogate-type simulation models to explore what may be happening.
3. Does the problem situation still seem suitable for this or another systems approach?	Yes, OK for HSM.	Yes, this model can suggest systemic effects or defects in structures and processes.
4. Can the model take account of the natural variability of the problem situation?	Up to a point. Main problems: accepting essential variability at periphery; long term projections complex; consider VSM / autonomous wholes ideas?	Yes, and can approach different aspects, from assessing formal arrangements for review etc. to exploring suitability of 'systems in use' by actors (as a learning model).
5. Does the model take any cyclical variations in the problem situation into account?	Yes, various ways.	Cybernetic foundations enable model to see, e.g., if output data are sampled at appropriate frequency to detect changing trends in inputs or processes rapidly but not precipitate action prematurely.

6. Can the model include any quantifiable problematic variables?	**Yes, quantification at many stages possible.**	**Yes, either in places or by building a wholly quantitative version of model.**

Abbreviated question.	Topic 3. Quality.	Topic 4. Outcomes.
1. Can the model reflect any value-laden, unclear, changing or complex aspects of the problem situation?	Parts of problem situation have such features, and VSM's strengths may lie elsewhere i.e. identifying structural weaknesses.	validity tested by formal system model - see discussion in 7.3.2 and 7.4.1
2. Does model assume realistic enough internal & external conditions?	Yes, but ... structural conditions of VSM may be necessary but not sufficient for viability - see 1. above.	validity tested by formal system model - see discussion in 7.3.2 and 7.4.1
3. Does the problem situation still seem suitable for this or another systems approach?	NHS QA people refer to QA systems and systematic approaches, yet often lack the holistic approach these terms imply. VSM can help in clarifying concepts e.g. boundaries and interconnectedness, hierarchy and emergence, systems as human artefacts.	validity tested by formal system model - see discussion in 7.3.2 and 7.4.1
4. Can the model take account of the natural variability of the problem situation?	Yes, if applied appropriately - see text	validity tested by formal system model - see discussion in 7.3.2 and 7.4.1
5. Does the model take any cyclical variations in the problem situation into account?	System 2 anti-oscillation function alerts analysts and those in real world situation to be aware of dynamics in the organisation and its environment, at each level of recursion.	validity tested by formal system model - see discussion in 7.3.2 and 7.4.1
6. Can the model include any quantifiable problematic variables?	Yes, in both VSM and quality systems; but highly quantitative approach not appropriate here.	validity tested by formal system model - see discussion in 7.3.2 and 7.4.1

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APPENDIX A.

QUESTIONNAIRES TO REGIONAL HEALTH AUTHORITIES, 1986.

SCORING SHEET FOR SELECTION OF CASE STUDIES.

Ms J Holloway
Systems Group
Faculty of Technology
The Open University
Walton Hall
Milton Keynes MK7 6AA

Tel 0908 652102/652103 ext 10

22nd August 1986

Dear

SURVEY OF PERFORMANCE EVALUATION IN THE N.H.S.

I am undertaking a PhD research project to investigate the formal methods of evaluating the performance of the National Health Service, and their relationship to the setting and successful pursuit of objectives. The practical concerns of each tier in the N.H.S. are related to different strategic and operational objectives and responsibilities. I am interested in studying the development and use of performance evaluation methods at each level, from central government through to units. I aim to develop a general model of performance evaluation activity monitored through the annual review process; and then trace some specific aspects (most probably the development and use of 'quality assurance' and performance indicators), through this process.

At this stage I am sending a questionnaire concerning performance evaluation in general, to all Regional General Managers. I very much hope that you, or a colleague, will complete this. In the questionnaire, I have requested copies of documents relating to the Annual Review process, to reduce the number of questions to be answered. On the basis of replies I receive, I then plan to select a limited number of Regions for a more detailed study. This will comprise a small number of case studies of some of the performance evaluation activities taking place at district level, and the ways that these are linked to district objectives and the regions' goals for these districts. Most of this fieldwork will then take place from late 1986 through 1987. These studies will not interfere with regions' or districts' work, but will involve observing areas of activity that would normally be reported publicly, together with some interviews.

At the end of the questionnaire you are asked to indicate your willingness to participate further in this research. I would be pleased to share the findings from this research with those who contribute to it.

A copy of this questionnaire is enclosed and I would be extremely grateful if you or one of your colleagues could complete and return it to me, Ms J Holloway, at the Systems Group, Faculty of Technology, Open University, Walton Hall, Milton Keynes MK7 6AA, in the enclosed reply-paid envelope. I would be glad to receive your reply by 30 September 1986, as I will be selecting case studies in October 1986. If you or your colleagues would like to discuss any aspects of this research with me, I would be happy to do so and can be contacted (after 8 September) at the above address, telephone 0908 652102/3, ext.10.

If you pass this questionnaire to a colleague for completion, please could you ensure that they also see this letter.

Thank you for taking the trouble to read this letter, and in anticipation of receiving your completed questionnaire.

Yours sincerely,

Jacky Holloway
Postgraduate research student,
Applied Systems Studies Unit.

[Region code:]

SURVEY OF PERFORMANCE EVALUATION IN THE NHS

The following questionnaire is being sent to all Regional Health Authorities in order to obtain some general information about the annual review process, and activity related to quality assurance, in the NHS. Further details of the research project concerned are contained in the letter accompanying this questionnaire.

The answers will be confidential, but depending on your response to Question 2 of section E below, may lead to further contact with your region and districts within it. If you do not wish to answer a particular question, please indicate this and move on to the next one. If there is not enough space to answer a question, please write your answer on a separate sheet or reverse of the questionnaire, stating the question number.

please return the completed questionnaire in the reply-paid envelope, together with any enclosures and additional information to :

Ms J Holloway, Systems Group, Faculty of Technology, Open University, Walton Hall, Milton Keynes MK7 6AA,

by 30th September 1986.

Thank you.

****

SECTION A

1. Name of Region.....
.....

2. a. Name of person completing this questionnaire.....
.....

b. Job title.....

c. Address for correspondence (if not at Regional headquarters).....
.....
.....

SECTION B ANNUAL REVIEWS

1. Reviews of Districts in 1985

a. Was at least one formal review meeting held with each district in your region in 1985?

Please tick appropriate box

Yes, with each district ☐ No, not with all districts ☐ Don't know/ rather not say ☐

b. If you answered 'No' to question 1.a., with how many districts were meetings held?

Number: .....

2. Reviews of Districts in 1986

How many of your region's 1986 district reviews have been conducted so far?

Number: .....

3. Does your region hold informal as well as formal review meetings with districts on a routine basis?

Please tick appropriate box

Yes ☐ No ☐ Don't know/ rather not say ☐

4. District Review agendas and action plans

In order to indicate the range and scope of topics covered by regions' reviews of their districts, it would be extremely valuable if you could enclose copies of the following:

a) Region's letter and action plan to each district following the most recent review meeting(s); and

b) the agendas of each of these meetings, if available

[If you wish to add any comments about the content or availability of these documents, please do so overleaf]

5. Regional reviews with ministers

This project aims to cover the whole Review system. To help me to obtain an initial picture of the areas covered by ministerial reviews of regions, please could you enclose a copy of the action letter(s) and plan(s) arising from your Region's last one or two Reviews.

[If you would prefer not to send such documents, perhapsyou could list (below or overleaf) any topics which, in your view, related directly to performance measurement or evaluation, and were on the agenda for both your region's meeting with the Minister, and your regions' reviews of districts: .....
.....
.....
.....]

6. a) Has your region yet been subject to the new style of 'performance review' with the NHS Management Board, as well as the older form of ministerial review?

Please tick appropriate box

Yes ☐ No ☐ Don't know/ rather not say ☐

b) If your answer to 6. a) was 'No', have firm arrangements been made for such a review of your region?

Please tick appropriate box

Yes, to be held later this year ☐ No, no firm arrangements have been made to date ☐ Don't know/ rather not say ☐

SECTION C 'QUALITY ASSURANCE' ACTIVITY IN YOUR REGION

Note: For the questions in this section, I am interested in assessment methods designed to control or influence any dimensions of 'quality of care', including its technical effectiveness, social acceptability, and standards of delivery. The aim here is to obtain an impression of any role quality assurance is beginning to play formally in the Review process, and the following questions seek information supplementary to that which may be contained in the action plans. (More detailed information about quality assurance activity is being sought in a separate questionnaire which has been sent to an officer involved in this field in most regions.)

1. If the subject of quality assurance (or setting goals or standards for service quality) has not yet been an agenda item at any of your reviews with Districts, do you anticipate that this subject will be included as a specific item in the next series of review meetings?

Please tick appropriate box

Yes ☐ No ☐ Unable to say at present/ rather not say ☐

2. a) Does the remit of any member of the management board for your region explicitly include responsibility for quality assurance matters?

Yes ☐ No ☐

b) If your answer to 2 a) above was 'Yes', please give their name :

.....

3. It has recently been reported that the DHSS has requested Regional General Managers to inform the Department of their quality assurance activity from now on. Has your authority yet made any detailed plans as to the form and timetable for such reports?

Please tick appropriate box

Yes, such plans are under way ☐ No, this has not yet been decided ☐ I would rather not comment on this matter/ don't know ☐

SECTION D PERFORMANCE INDICATORS

1. Do you know of any research projects being undertaken within your region (or in conjunction with outside institutions or consultants) on the development and / or use of performance indicators? Please include activity related to both the D.H.S.S. and Inter-Authorities Comparisons and Consultancy ('John Yates') performance indicators.

Please tick appropriate box

Yes	☐	No, not aware of any projects	☐	Rather not say	☐

2. If your answer to question 1 above was 'Yes', please could you give the name(s) and job title(s) of people from whom some more information may be obtained: .....
.....
.....

SECTION E GENERAL

1. a) If your region has produced any form of handbook, leaflet or other public literature about its services, it would be very helpful if a copy could be forwarded with your reply, or the details given below:

Title and date of publication.....
.....
From whom, and where, it may be obtained .....
.....
.....
.....
Price (if applicable).....

b) If a regional strategic plan has been published for your region, please would you give details below:

Title and date of publication.....
.....
From whom, and where, it may be obtained .....
.....
.....
.....
Price (if applicable).....

3. Part of the detailed data collection for this research will be a number of case studies of aspects of performance evaluation in a sample of Regional and District Health Authorities. I would be most grateful if you could indicate below whether you, or a named colleague, would be willing to discuss the possibility of participating further in this research. No commitment will be made at this stage.

Please tick appropriate box

a. Yes, I would be willing to be contacted again on this matter ☐

b. My colleague, rather than myself, is willing to be contacted on this matter; ☐

their name, job title and daytime telephone number are:
.....
.....
.....

c. In this Region, it is unlikely that we would wish to consider participating further in this research. ☐

* * * \

Ms J Holloway
Systems Group
Faculty of Technology
The Open University
Walton Hall
Milton Keynes MK7 6AA

Tel 0908 652102/652103 ext 10

22nd August 1986

Dear

SURVEY OF PERFORMANCE EVALUATION IN THE N.H.S.

I understand from the King's Fund Quality Assurance Information Service that you may be able to provide me with some information about quality assurance activity at the regional level.

I am undertaking a PhD research project concerning formal methods of evaluating the performance of the National Health Service and their relationship to the setting and successful pursuit of objectives. To provide a framework for this, I will be looking at performance-related aspects of the annual review process as it affects each tier of the service. I then wish to look in some depth at quality assurance developments at regional, district and unit level, and to obtain a more detailed picture of the contribution of some specific schemes which are being designed to improve the performance of the service in various ways.

At this stage I am trying to establish the role of Regions in the field of health service quality assurance, in relation to all dimensions of quality of care. I therefore enclose a questionnaire which I very much hope you will complete (or pass to a colleague for completion if more appropriate). The questions are confined to the subject of the Region's role in quality assurance; a separate questionnaire has been sent to regional general managers about the annual review process.

On the basis of replies I receive to both questionnaires, I plan to select a limited number of Regions for a more detailed study. This will comprise a small number of case studies of some of the performance evaluation activities taking place at district level, and the ways that these are linked to district objectives and the regions' goals for these districts. Most of this fieldwork will take place from late 1986 through 1987. These studies will not interfere with regions' or districts' work, but will involve observing areas of activity that would normally be reported publicly, together with some interviews.

At the end of the questionnaire you will be asked to indicate your willingness to participate further in this research. I would be pleased to share the findings from this research with those who contribute to it.

A copy of this questionnaire is enclosed and I would be extremely grateful if you or one of your colleagues could complete and return it to me, Ms J Holloway, in the Systems Group, Faculty of Technology, Open University, Walton Hall, Milton Keynes MK7 6AA, in the enclosed reply-paid envelope. I would be glad to receive your reply by 30 September 1986, as I will be selecting the case studies in October 1986. If you or your colleagues would like to discuss any aspects of this research with me, I would be happy to do so and can be contacted (after 8 September) at the above address, telephone 0908 652102/3, ext.10.

If you pass this questionnaire to a colleague for completion, please could you ensure that they also see this letter.

Thank you for taking the trouble to read this letter, and in anticipation of receiving your completed questionnaire.

Yours sincerely,

Jacky Holloway
Postgraduate research student,
Applied Systems Studies Unit.

[Region code:]

SURVEY OF PERFORMANCE EVALUATION IN THE N.H.S.

THE REGIONAL ROLE IN QUALITY ASSURANCE

The following questionnaire is being sent to the officer in each Regional Health Authority who is, (according to the King's Fund Quality Assurance Information Project), prepared to act as a 'contact' on quality assurance matters. Its purpose is to obtain some information about the current role played by regions and districts in relation to the development of quality assurance activities. It is part of a Ph.D research project concerned with the general area of the evaluation of the performance of the NHS. Further details of this project are contained in the letter accompanying this questionnaire.

The answers will be confidential, but if you do not wish to answer a particular question, please indicate this and move on to the next one. If you wish to add additional information at any point, please do so, on a separate sheet or the reverse of the questionnaire.

please return the completed questionnaire in the reply-paid envelope, together with any enclosures or additional information, to :

Ms J Holloway, Systems Group, Faculty of Technology, The Open University, Walton Hall, Milton Keynes MK7 6AA,

by 30th September 1986

Thank you.

****

SECTION A

1. Name of Region .....
.....

2. a) Name of person completing this questionnaire .....
.....

b) Job title .....
.....

c) Address for correspondence (if not at Regional headquarters) .....
.....
.....

SECTION B QUALITY ASSURANCE ACTIVITY IN YOUR REGION

Note: In this questionnaire, I am interested in any activities designed to control or influence any dimensions of 'quality of care', including its technical effectiveness, social acceptability, and standards of delivery. These could include such activities as, for example, professional/peer reviews, surveys of local health needs or patient satisfaction, or quality circles. The aim is to obtain an impression of the parts played by regions and districts in developing this field of activity.

1. Formal procedures

Please tick the appropriate box to indicate which of the following apply in your region:

	Yes, applies in this Region	No, does not apply here	Don't know/ rather not say
a) A 'Quality Assurance' policy statement has been adopted by the Regional Health Authority (or is currently being drafted for the Authority to consider)	☐	☐	☐
b) There is a named person (or persons) at regional headquarters whose job explicitly consists of taking the responsibility for 'quality assurance' matters	☐	☐	☐
c) A procedural manual relating to the region's approach to quality assurance has been, or is being, prepared (whether for regional staff only, or all regional and district staff, or for all those providing services for patients or staff in the region)	☐	☐	☐

1. Formal procedures cont'd

Please tick the appropriate box to indicate which of the following apply in your region:

	Yes, applies in this Region	No, does not apply here	Don't know/ rather not say
d) Training is being developed by the region for regional and/or district staff specifically in connection with qualitative aspects of the service	☐	☐	☐
e) A Regional Strategy for quality assurance is being drafted, as part of the strategic planning process	☐	☐	☐
f) A Regional Strategy for quality assurance has been adopted, as part of the strategic planning process	☐	☐	☐
g) If the answer to f) was 'Yes', formal procedures are in operation to monitor the implementation of the strategy by districts	☐	☐	☐

2. If any documents have been produced by your authority, such as a regional policy or strategy for quality assurance, it would be extremely helpful if you could forward copies with your completed questionnaire, or advise me where copies may be obtained or inspected. Please give details:

.....

SECTION C REGIONAL HEALTH AUTHORITY'S ROLE

1. Has your regional health authority taken on the role of promoting quality assurance activity in the region, by playing a co-ordinating role for all districts?

Please tick appropriate box

Yes, region has adopted this role ☐

Currently considering preferred role ☐

Considered and decided against co-ordinating role ☐

Not yet considered this issue / rather not say ☐

2. Has your regional health authority adopted a directive or task-setting role for districts in the matter of quality assurance?

Please tick appropriate box

Yes, region has adopted this role ☐

Currently considering preferred role ☐

Considered and decided against directive role ☐

Not yet considered this issue / rather not say ☐

3. Does your region provide support, advice or guidance for quality assurance projects in individual districts, if this is sought by them?

Please tick appropriate box

Yes, this is the only kind of regional involvement ☐

Yes, we provide such help in addition to a co-ordinating role ☐

No, no regional involvement of this sort with districts ☐

Don't know / rather not say ☐

4. As far as you are aware, has the subject of quality assurance, or setting goals or standards for service quality, been referred to specifically in planning guidelines or requirements produced by your region for districts at any time?

Please tick appropriate box

a) For short-term (annual or operational) plans — Yes ☐ No ☐ Don't know/ rather not say ☐

b) For strategic (long-term) planning — Yes ☐ No ☐ Don't know/ rather not say ☐

SECTION D GENERAL

The next stage in this project will comprise case studies of performance evaluation in several regions, including quality assurance aspects where relevant. If your region is selected, I would be most grateful if you could indicate whether you, or a named colleague, would be prepared to be contacted again on this matter later this year. No commitment will be made at this stage.

Please tick appropriate box

a) Yes, I would be willing to be contacted again on this matter ☐

b) My colleague, rather than I, is willing to be contacted on this matter; ☐
their name, job title and daytime telephone number are:
.....
.....

c) I/we would rather not be contacted again on this matter ☐

* *

Thank you very much for taking the time and trouble to complete this questionnaire; your participation is greatly appreciated. Whether or not I may be contacting you again, your reply will be most valuable.

JAH 21.8.86

SCORING SHEET FOR CASE STUDY SELECTION.

REGION	H.Q. ADDRESS + TEL. NO.	NAME + JOB OF CONTACT
		RGN CT
		RDA

A. REGIONAL DETAILS – RESEARCH ACCESS

A 1.a. Access agreed by RGN / deputy — YES | | NO |

A.1.b Access agreed by DOA / deputy — YES | | NO |

A.2 Access by rail or motorway — YES | | NO |

A.3. Within day trip capability or stay with friend — YES | | NO |

B. REGIONAL DATA

B.1. a. RAWP – Revenue — Gaining | | Losing |

b. – Capital — Gaining | | Losing |

B. 2 a. No. of Districts

B.3. a. Size of Population

b. Avg. dist. pop.

B.5. a. Regional SMR for all causes

C. REGIONAL STRATEGIC CONSIDERATIONS

C.1.a. Regional strategy published / Final draft available — YES | | NO |

C.2.a. Clear priority care group targets? — YES | | NO |

C.3. a. D.A. strategy published / Final draft — YES | | NO |

D. RESEARCH PROJECT CONSIDERATIONS

D.1. a. Any sort of DA activity known of? — YES | | NO |

D.2.a. Activity related to use of P.I.s known of? — YES | | NO |

D.4. a. Performance review 1986 – First group? — YES | | NO |

D.5. Any info. re. Unit reports available? — YES | | NO |

A. TOTAL

B 1. c. Data available on Sub-regional RAWP Basis — YES | | NO |

B.2.b. S.H.A. Considerations — YES | | NO |

B.4. Urban-rural mix – At least one centre of pop. > 200,000, — YES | | NO |

B 5.b. Social deprivation rate

B. TOTAL

C.1.b. Copy already obtained, or free on application — YES | | NO |

C.2.b. Unusual age structure? — YES | | NO |

C3.b. COM DA. Strategy available — YES | | NO |

C. TOTAL

D.1.b. D.A. issues in R. or D. A. Plans — YES | | NO |

D.3. A.P. task related to R/D. strategic links? — YES | | NO |

D 4.b. Perf. rev. '86 2nd. group / pending — YES | | NO |

D.6. Any info. re. other major research projects? — YES | | NO |

D. TOTAL.

APPENDIX B.

QUESTIONNAIRE TO REGIONAL HEALTH AUTHORITIES, 1988.

Ms J Holloway
Systems Group
Faculty of Technology
Open University
Walton Hall
Milton Keynes MK7 6AA

30th March 1988

Dear

Research into performance evaluation in the NHS

I am nearing the completion of a PhD research project to investigate the formal methods of evaluating the performance of the National Health Service, and their relationship to the setting and successful pursuit of objectives at each level from central government through to units. An initial questionnaire was administered in August 1986, to which Mr Dummer very kindly responded.

As part of the final round of my data collection (which has also involved several case studies), I am seeking information about recent developments in the Annual Review system, particularly in relation to regional health authorities. I therefore enclose a questionnaire which I very much hope you, or one of your colleagues who is involved with the Annual Review meetings, will complete. The replies will be treated in strict confidence. If you would like to discuss any aspects of this research with me I would be happy to do so and can be contacted at the above address or by telephone on 0908 655109 or 0908 611095.

I would be most grateful if the completed questionnaire could be returned, with any enclosures, to me, Ms J Holloway, here at the Open University in the enclosed reply-paid envelope, by Friday 6th May 1988. If you do pass the questionnaire to a colleague for completion, please would you ensure that they also see this letter.

Thank you for taking the time to read this letter, and in anticipation of receiving your completed questionnaire.

Yours sincerely

Jacky Holloway
Research student, Systems Group.

[Region code:]

RESEARCH INTO PERFORMANCE EVALUATION IN THE NHS

ANNUAL REVIEW QUESTIONNAIRE

This is the second of two questionnaires seeking information about the role and development of the NHS Annual Review system. It is being sent to Regional General Managers in most English RHAs, from which the reply received to the first questionnaire (in autumn 1986) indicated willingness to be contacted again in connection with this research. RGMs may, however, prefer to pass the questionnaire to an appropriate colleague for completion. Further details of the project are contained in the letter accompanying this questionnaire.

The answers will be confidential; if you do not wish to answer a particular question please leave it and move on to the next one. If you need additional space to answer a question, please write your answer on a separate sheet or on the reverse of the questionnaire, stating the question number.

Please would you return the completed questionnaire in the reply-paid envelope, together with any enclosures and additional information, to:
Ms J Holloway, Systems Group, Faculty of Technology, Open University, Walton Hall, Milton Keynes MK7 6AA,

by Friday 6 May 1988. Thank you.

SECTION A.

1. Name of Region: .....

2. a) Name of person completing this questionnaire:

.....

b) Job title: .....

c) Address (if not Regional head-quarters):

.....

SECTION B. 1987 ANNUAL REVIEW CYCLE

This Section seeks general information about the 1987 Regional Review meetings; in a few regions these may not have taken place until 1988.

1. Date of first (Management) review meeting: .....

2. Date of second (Ministerial) review meeting: .....

3. Approximate date agreed Action Letter and / or Plan received by region:
.....

4. Could you discern a clear difference between the purpose and content of the two review meetings?

(Please tick appropriate box)

Yes ☐ No ☐

5. Would you say that the Ministerial meeting was concerned primarily with strategic issues?

(Please tick appropriate box)

Yes ☐ No ☐

SECTION C. ACTION ARISING FROM 1987 REGIONAL REVIEWS

1. To help me to obtain a picture of the topics covered by the most recent round of Regional review meetings, I would be most grateful if you could send me a copy of the Action Letter and / or Plan arising from your Region's 1987 review meetings.

2. It has been suggested that, as the annual review system has developed, the resulting Action Letters and / or Plans have become more relevant to the concerns of Regions. If you are able to compare the most recent action plan with one or more such documents from previous reviews, would you agree with this observation?

Please use the space below to describe any changes which you have discerned (continue overleaf or on a separate sheet if necessary).

3. An aim of this project is to assess the practical role which the annual review system (from central government through to units) plays in monitoring and developing health service performance towards both operational and strategic goals.

a) In connection with the most recent regional review Action Plan, do you feel that there are any items which may pose difficulties for the region to monitor or investigate (for example because timely or accurate data are not available, or satisfactory measures have not yet been developed)?

(Please tick appropriate box)

Yes ☐ No ☐

b) <u>If your answer to a) was 'yes',</u> and you have enclosed an Action Plan, it would be most helpful if you could indicate any such items, and describe below the nature of the region's concern and any action which is being considered to resolve this:

SECTION D. ANNUAL REVIEWS OF DISTRICTS

1. a) Would you say that the format for, or conduct of, District Reviews in your region undertaken in 1986 or 1987 (or planned for 1988) has changed from that of previous years?

(Please tick appropriate box)

Yes ☐ No ☐

b) If your answer to 1 a) was 'Yes', could you describe briefly the ways in which it has changed, or may change in 1988:

2. If your answer to question D.1.a) was 'yes', do you feel that such changes could be related to the changes in the regional review process? Please could you describe (in the space below or overleaf) your perception of any such relationship:

SECTION E. PROCEDURES FOR MONITORING PERFORMANCE

1. As well as those aspects of monitoring and reviewing performance in the region covered in Section C above, I would be interested to learn of procedures, or data collection tools, which have been introduced or developed in the region in the past two or three years, or are currently under consideration. For example, do any of the activities listed below, apply?

Please would you tick any relevant boxes, and / or describe briefly under a) - e) below any activities in your region which you feel may be of interest in this area. If you are able to send any literature describing such activities, (for example, RHA papers or annual review reports), this would be most welcome.

(Please tick all appropriate boxes)

a) 'in-year monitoring' of districts' cost improvement programmes,

i) for internal use ☐ ii) for report to the DHSS ☐

iii) further details of this activity:

b) periodic reports during the year on progress in implementing the regional short term programme, submitted

i) to the RHA ☐ ii) to the DHSS ☐

iii) further details of this activity:

e) Please would you describe any other procedures or data collection tools which you feel may be of interest in the context of this questionnaire (using the space below, overleaf or on a separate sheet if necessary).

SECTION F. DEVELOPMENT OF THE ANNUAL REVIEW SYSTEM

1. The following quotations come from recent publications about the evolving annual review system. Please would you indicate (by ticking the appropriate box) the strength of your agreement with each of these statements, as descriptions of the role (past, current or potential) of the annual review system.

a) The annual review procedures ".... provide an arena for exchange and dialogue" (enabling) "higher levels within the system to move away from generalised policy statements towards the development of differential guidelines which are more sensitive to local circumstances."

Agree strongly ☐ Agree ☐ Neither agree nor disagree ☐ Disagree ☐ Disagree strongly ☐

b) ".... annual review meetings are now providing useful opportunities for RHA - DHSS as well as RHA - DHA policy discussions."

Agree strongly ☐ Agree ☐ Neither agree nor disagree ☐ Disagree ☐ Disagree strongly ☐

c) "Annual review meetings between ministers and regional chairmen ... have provided a valuable framework and discipline for ensuring proper accountability, ... (although) ... their scope has necessarily been limited."

Agree strongly ☐ Agree ☐ Neither agree nor disagree ☐ Disagree ☐ Disagree strongly ☐

d) ".... ministerial reviews might discuss regions' long-term goals for reshaping their services .... They rarely look at the changes authorities are planning each year to achieve these goals or how problems in delivering short term programmes affect the feasibility of long term objectives."

Agree strongly ☐ Agree ☐ Neither agree nor disagree ☐ Disagree ☐ Disagree strongly ☐

e) (on regions' reviews of districts) "The process of managerial accountability is being tightened up in a very real way. In some regions this has led to a critical reappraisal of the traditional relationship between regions and districts and to regions adopting a higher profile approach."

Agree strongly ☐ Agree ☐ Neither agree nor disagree ☐ Disagree ☐ Disagree strongly ☐

f) " .... the performance review process has concentrated too much on the financial and staffing inputs and paid too little attention to service outputs or quality of service issues."

Agree strongly ☐ Agree ☐ Neither agree nor

disagree ☐ Disagree ☐ Disagree strongly ☐

[Note: in order to reduce the potential introduction of bias in responses, the sources of the above quotations have been omitted. However, they are available on request]

2. If there are <u>any comments you would like to make</u> about the value of the annual review system as it has developed for regions and districts since 1982, as a means of monitoring the performance of the health service, please feel free to add them below, overleaf, or on a separate sheet.

As with all of the information gathered through this questionnaire, your replies and views will be treated with the strictest confidence.

THANK YOU VERY MUCH FOR TAKING THE TIME AND TROUBLE TO COMPLETE THIS QUESTIONNAIRE. YOUR ASSISTANCE HAS BEEN MOST VALUABLE.

J.A.H. 30.3.88.